ENGINEERING NEWS-RECORD

ed panel of Remagen Bridge where repairs were concentrated in attempt to save it.

[PUMP TIPS FROM ALLIS-CHALMERS—ONE IN A SERIES]

How to make WEARING RINGS Last Longer . . .

ANY NEW PUMP you buy is guaranteed to deliver its rating in capacity and head. But whether it *retains* its actual capacity depends to a great extent on the condition of its wearing rings. For when rings are worn thin, liquid leaks through the enlarged clearance between impeller and casing — seriously reducing capacity.

One of the major causes of excessive ring wear is misalignment. So serious can it be, that Allis-Chalmers engineers were led to develop, for many applications, the "Electrifugal" pump — in which *both* impeller and motor are mounted on *one* shaft and in *one* frame. This *unit-design* prevents parts in the pump's closely fitted body from getting out of "kilter" . . . helps you get longer life out of wearing rings.

However, regardless of whether you have a unit-design or separately coupled pump and motor, here are a few tips which will help you get longer wear from rings in your pumps . . .

▸ Never allow a pump to run dry — either through lack of proper priming when starting, or through loss of suction when operating. Remember . . . water is a *lubricant* between rings and casing.

▸ Examine wearing rings at regular intervals. When new, rings in the smaller size, more commonly used pumps should have a diametrical clearance of about 0.006 to 0.008 inch on cold liquid service, and about 0.010 to 0.012 on hot liquid service. When ring clearance becomes 0.020 to 0.030 inch on the diameter it is more economical to replace rings than to pay for power lost in leakage through them.

▸ Gritty liquid or foreign matter in liquid accelerates ring wear. If condition exists, provide intake end of suction piping with a suitable screen to filter out abrasive materials.

▸ Watch pump alignment. Excessive strains from suction or discharge piping can and do distort casing. Wearing rings protect pump from serious damage in this event by themselves taking the wear. However, *before* installing new rings, be sure to check into the *source* of distortion.

▸ Send for your *free* copy of "Handbook for Wartime Care of Centrifugal Pumps". This valuable booklet applies to *all* makes of pumps; contains *no* advertising. Contents include: tables of friction losses; guide to locating trouble; wartime maintenance schedule. ALLIS-CHALMERS MFG. CO., MILWAUKEE 1, WISCONSIN. A 1756

Wearing rings on Allis-Chalmers "Electrifugal" pumps are located on both sides of impeller — protecting casing and cover from wear. Their construction depends on the exact nature of the liquid to be pumped. They may be bronze, stainless steel, monel metal or other material with inherent ability to resist destructive action of a specific liquid.

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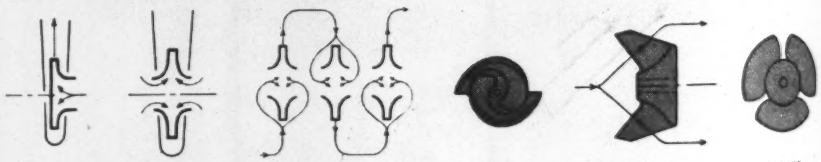
Allis-Chalmers builds all types and variations of pumps shown at right. Capacities from 10 to 150,000 gpm—heads to 2500 lbs.



Single Suction | Double Suction | Double Suction Multi-Stage | Open Impeller | Mixed Flow | Axial Flow (Propeller)

The Week In Engineering and Construction

GINEERING NEWS-RECORD • APRIL 12, 1945 • VOLUME 134 • NUMBER 15

ower Mississippi flood ay exceed 1937 stages

any new records already established on tributaries th much local damage—Army Engineers may not en the Morganza floodway

rising at most points below burg, Miss., the lower Mississippi is expected to exceed in the last undred miles of its length the num levels reached in the 1937 and to come with in 2 or 3 ft. of rest of the disastrous 1927 flood, ding to the U. S. Weather Bureau. prediction is not concurred in by Gen. Max C. Tyler, president of Mississippi River Commission, who in the flood area. He holds that ood will not be as severe as that 37 due to improved weather con-s.

One floodway in use

tes of the Bonnet Carré Spillway been open for some days (*ENR* h 29, vol. p. 422) and for a time as expected that the Morganza lway also would have to be put ervice (*ENR* April 5, vol. p. 434) General Tyler now believes that action will not be necessary.

ch local damage has already oc-d on numerous tributaries in s, Arkansas and Louisiana, new d high stages having already been lished at several points. Extensive tional damage is expected on the r reaches of these streams in the few days.

Widespread rainfall

e floods now in progress are re-ng from extremely heavy precipi-n during the recent weeks over h of the Ohio and lower Mississippi ns. Rainfall records of the Weather au show that from Feb. 7 to March recipitation in the Ohio River basin large area below Cincinnati totaled e than 11 in., and over 10 in. of fall was record for much of western nsas during this period.

llowing a few days of good her, extremely heavy rainfall be-in the middle and lower Mississippi ys. In the period Mar. 12 through April 2, a total of 6.48 in. fell at Memphis, 9.61 in. at Fort Smith, Ark.; 7.13 in. at Shreveport, La.; 7.10 in. at Little Rock, Ark.; and 10.18 in. at Cairo, Ill.

Heavy rains in Arkansas

At Danville, Ark., during March, 18.09 in. was recorded. In addition, many sections reported more than 7 in. during some days and at Devils Knob in Arkansas in the Ozark Mountains, 9.9 in. was received the night of March 29-30, records of the U. S. Geological Survey reveal. Rains of March 30 and 31 covered the entire eastern half of Texas, exceeding 8 in. over a wide area on the upper Trinity, Neches, Sabine, and Sulphur River basins.

The early rains caused the second highest flood on record on the Ohio at Louisville, Ky., the stream cresting at that point March 8 at 47.1 ft. on the upper gage. This flood is now reaching the lower Mississippi valley at a time when the rivers of Arkansas, Texas, and Louisiana are extremely high. The resulting effect is the flood now in progress in the lower Mississippi.

Lower river still rising

The river early this week was rising at many points in the 430 miles between Vicksburg and its mouth, but most severe damage is expected below Vicksburg, Miss. At this point, although above flood level, the stream is expected to crest about 12 ft. below the previous all-time high of 58.6 ft. In contrast, at Baton Rouge a stage of 45.1 ft. about April 21 is predicted by the Weather Bureau. This elevation compares to the record high of 47.8 ft. established in 1927.

(*Continued on next page*)

Two engineer officers get Legion of Merit

Awards of the Legion of Merit were made recently to Col. Malcolm Elliott, division engineer, Upper Mississippi River Division, St. Louis, Mo., and to Col. Maybin H. Wilson, now deputy division engineer in the St. Louis office. Shown in this picture are Colonel Elliott (left), Maj. Gen. Eugene Reybold, Chief of Engineers, U. S. Army, and Colonel Wilson. The award to Colonel Elliott was made for his efficient handling of the numerous tasks assigned to him under the war emergency in addition to his regular duties; Colonel Wilson's award was for services at Fort Richardson, Alaska, from Oct. 1, 1942, to Dec. 31, 1944, when many large installations were constructed under his direction.

The maximum stage reached in 1937 at Baton Rouge was 45.0 ft. This compares with the prediction that present flood will reach 45.1 at that point.

Tuesday a stage of 19.5 ft. had been reached at New Orleans, where flood stage is 17 ft., and the maximum recorded stage is 21.3 ft. established in 1922. A higher stage would have occurred in 1927 if the levees downstream from the city had held, a stage of 21.0 ft. having been reached before the flow through a gap in the levees started.

The present high stage at New Orleans has been reached despite the fact that all gates of the Bonnet Carré Spillway a few miles above the city are open and about 255,000 cfs. is being diverted to the Gulf through Lake Pontchartrain. It is in view of this present high stage, coupled with the fact that still higher water can be expected, that the U. S. Army Engineers are completing preparations to place the Morganza Floodway in service if this proves necessary.

Record stages on many streams

New record stages and much damage have already occurred on the Sabine River, the Little River in Arkansas, Ouachita in Arkansas and Louisiana, and on the Red River, which forms a long section of the Texas-Oklahoma boundary before cutting southeastward across Louisiana. The Ouachita on April 3 rose to 44.8 ft. at Camden, Ark., exceeding by 3.3 ft. the previous maximum recorded stage of 41.5 ft. established in 1937. The Sabine on April 8 crested at 44.0 ft. at Logansport, La., to top by over 7 ft. the old record of 36.9 ft. established in 1915.

At Whitecliffs, Ark., the Little River, April 1, exceeded by over a foot the previous high of 32.0 ft. set in 1915, and not far away at Fulton, Ark., the Red, on April 2, rose to 37.2 ft., exceeding by 0.8 ft. the all-time high. A new record stage is also anticipated at Alexandria, La., on the Red, a stage of 45 ft. being expected between April 12 and 14. The previous high at this point is 43.6 ft., which occurred in 1932. Several hundred thousand acres of farmland early this week were already flooded in this area.

Highway traffic interrupted

On U. S. Highway 51 between Memphis and New Orleans, where the road crosses the Arkabutla Reservoir on the Coldwater River, Engineer troops from Camp Shelby, Miss. on Saturday installed a Bailey Bridge span to permit traffic to continue. A new elevated highway had been complete across the reservoir except for a 110-ft. opening that was not closed when steel became critical. Erection of the Bailey trusses permitted a new road to go into service, high water having halted traffic on the old route.

Early this week it was also predicted that by April 27 the Black River at Jonesville, La., would reach a stage of 57.5 ft. At this point the maximum previous stage is that of 55.8 ft. recorded in 1937.

Moreover, new record stages are seen possible in the next few days on the lower Trinity, now approaching the previous high stage of 29.4 ft. at Liberty, Tex. Monday, the stage at this point was 27.8 ft. and the river was still rising upstream. Over the weekend the river had crested at Riverside, Tex., a few score miles upstream from Liberty, at 52.0 ft., which compares to 52.7 ft. established in 1942 as the highest on record on that gage.

Storage of flood waters

In regard to completed flood-control dams, the Corps of Engineers reports that the pool level at Denison Dam on the Red is above the power pool level for the first time. The reservoirs of Nimrod Dam on the Fourche La Fave in Arkansas and at Wapapello Dam on the St. Francis in southeastern Missouri are full, and some discharge over the spillway is occurring. At Norfork Dam in northern Arkansas on the North Fork River the maximum storage has occurred that is possible with the temporary bulkheads that are now in place along the spillway crest. This storage, however, is only about 50 percent of the total that will be possible when war conditions permit installation of the tainter gates to regulate flow over the spillway.

• • •

Terre Haute must abate Wabash River pollution

The Indiana Stream Pollution Board has ordered Terre Haute to take effective measures by Oct. 1 next to correct what is said to be excessive pollution of the Wabash River. An immediate engineering survey of the pollution caused by the sewage disposal system has been recommended to the city administration.

Rhine railroad bridge built by Army in 10 da

A single-track railroad bridge the Rhine River at Wesel was pleted at 11:15 p. m. April 8, days, 5 hours and 15 minutes aft work started, according to a s dispatch to *Engineering News-R* from Paris. This is nearly four better than the 14 day schedule down when the bridge was planned, which schedule was con unduly optimistic by many peop Engineer headquarters.

The site selected was just nor the destroyed highway bridge at W a location that involved about two of approach tracks.

Details of the bridge

The main bridge has a total le of 1,752 ft., consisting of 22 spa 75 ft. plus a navigation span of 9 In addition there is a fill of 37 and a bridge 463 ft. long over the L River Canal, making a total leng 2,588 ft. for the river crossing.

Piers for the bridge are timber construction topped out with LST (light steel trestle) three panels and two deep, such as are shown in pictures on pp. 416 and 417 in March 29 issue. These in turn carry 75-ft. meter-beam spans. There are meter beams under each rail in th ft. spans and three under each ra the 92-ft. channel span. The m beams are rolled sections one m deep, rolled in Luxembourg.

Each pier substructure is made of 24 piles driven to about 30 ft. p tration by five floating pile drivers. steel spans were set with floating ricks, there being two 20-ton cra cranes mounted on barges and stiff-leg derrick of 25-ton capacity another barge made of an assembly Seabee pontoons.

The average depth from top of at the piers to the river bottom s ft., the greatest depth being 66 ft. top of rail is 29 ft. above mean l water and 34 ft. above the pres level. Over the navigable channel th is a clearance of 25 ft. above mean l water.

A total of 2,140 tons of steel used in the bridge. The labor f included 2,858 soldiers and civilians.

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lood predictions by U.S. Engineers plement crossing of the Rhine

ff of civilian engineers headed by Gail A. Hathaway sent to nce to give combat troops advance information on floods

w that our armies have successcrossed the Rhine River in westGermany, some details of the ulous planning which went into rossing can be released. Supplying the work of combat troops and rces, a particularly important role played by civilian specialists of U. S. Engineer Department and federal agencies who since last ar have provided a flood-predicservice along the Rhine.

Forecasts were accurate

cluded in this service were general -stage predictions and reports on and flooding conditions for the e River and its tributaries from egen, near the mouth, to Basel at Swiss border. Since March 16 powerful voice of Radio Luxemg has broadcast twice a day 48-hr. nce predictions of river stages to all , corps, and division commands ucting the "cross-the-Rhine" offen-

In making forecasts of river s up to ten days in advance for lower Rhine, American engineers me noted for the accuracy of their -range predictions.

e importance of this river intelli- in the current operations is pored in the introduction to the first rologic Bulletin issued recently t the service, which points out: e use of various types of amphibiequipment, floating craft, pontoon ging, cable ferries, and temporary d bridges in the crossing of the e will require special precautions e taken during floods to minimize rruption of service and avoid loss quipment. Immediately preceding after initial crossing operations, re- predictions of stages along hes of the river involved will be l to security of the crossing."

Danger to pontoon crossings

rtificial flooding still is possible, ough not very probable. During next few weeks, however, while porary fixed bridges are being built he Engineers to replace their tactipontoon bridges, natural flash ds could still create havoc unless cient advance warning is given. flood protection service will con- in operation to warn tactical mands of spring or summer rises along the Rhine or its tributaries which might affect military operations.

The battle of the rivers became top priority in Allied planning during the winter, when our armies were held at the Roer River line nine days past the jumping-off date, waiting for an artificial flood to subside. The Germans were reported to have been very clever in arranging that flood. Army Engineers, who crossed both streams, admit that bridging the flooded Roer was much tougher than the preliminary bridging across the Rhine.

Adding emphasis to the battle of intelligence was the American Engineers' knowledge of a report prepared for the German Army General Staff, entitled *Das Rheinstromgebeit* (Artificial Flood Waves on the Rhine). This report outlined the possibilities of creating artificial floods by operation of the power dams on the upper Rhine, and estimaterd that flood waves could be thus created which would carry away pontoon bridges, probably as far down the river as Strasbourg.

Data found at Vicksburg

According to a recent communication from Brig. Gen. M. C. Tyler, president, Mississippi River Commission, since the first of last November material has been culled from the libraries of the Mississippi River Commission and the U. S. Engineer Waterways Experiment Station at Vicksburg, Miss. and made available to the flood prediction service. Included in this material were German atlases of 1872 and 1889 giving widths and depths of the Rhine at a number of cross sections. Flood data from 13 selected years was obtained from a private library. It gave flood stages for all gages on the Rhine and the time of travel of flood crests down river from Lake Constance to the Dutch border, plus flood data for the lower Rhine in Holland, including that for the greatest flood on record.

Other material supplied by the Waterways Experiment Station at Vicksburg included 24 sheets of hydrographs showing annual river stages at half a dozen critical points; an article on cutoffs; tabulations showing the zero elevations of existing gages; 12 precipitation charts giving detailed information about rainfall at various points along the Rhine; and a temperature chart showing the variation in temperatures for a selected year.

Flood stages in the Meuse River, obtained from a Dutch source, also were included in the shipment. From German reports, additional information was translated regarding ice, its time of occurrence, and difficulties reported by commercial navigation at such times. The data on ice occurrence was given special attention because of its direct connection with pontoon bridge planning.

Prediction without observation

The difficulties in making accurate river-stage predictions, even on the basis of material such as the foregoing, was apparent to those in command. The first Hydrologic Bulletin pointed out that inasmuch as drainage areas east of the Rhine would be in enemy hands during initial phases of operations, predictions of stages on the Rhine would have to be made without actual observation of stages or rainfall in regions contributing the major portion of flood flows. Moreover, the probability of artificial flood created by demolition of dams located on tributaries in enemy territory had to be anticipated and warnings given to forces crossing downstream as soon as possible after such emergencies arose. An administrative memorandum of the Staff Headquarters Allied Expeditionary Forces (SHAEF) added that: "A thorough appreciation of the flood characteristics of drainage areas tributary to the Rhine, based on hydrometeorological experience and a detailed study of basins involved, will be necessary for reliable stage predictions sufficiently in advance to meet operational requirements."

All agencies helped

The SHAEF directive setting up the flood prediction service assigned to all Intelligence agencies the job of collecting in occupied areas technical data covering meteorology, hydrology, geology and physical characteristics of the Rhine and its tributaries, including impounding structures, gaging stations, and navigation. The Ninth Air Force and the U. S. Strategic Air Forces in Europe were assigned responsibility for providing both weather data and a rapid communications service over their established weather network. Engineer headquarters with each Army established and have operated the rainfall and river gaging stations within their respective areas.

Weather detachments of the Ninth Air Force's 21st Weather Squadron receive the river-stage observations from the Army headquarters and broadcast

(*Continued on page* 13)

Engineers Almost Saved Remagen Bridge

Waldo G. Bowman

Editor, Engineering News-Record
(By air mail from European Theater of Operations)

Had the railroad bridge over the Rhine at Remagen, Germany, been able to hold itself up another 10 hr. it is probable that the repair job being done to its shattered steelwork by American Army Engineers would have saved it for our future use.

When the collapse occurred at 3:15 p.m. on March 17, a prefabricated section had been loosely inserted in the critical break in the first panel of the bottom chord of the arched center span (Fig. 2), and preparations were being made to jack compression into it. Work was continuing day and night, as it had been since the repair forces began operations on March 12, four days after the bridge was captured and crossed by our armored division troops.

Vibrations initiated failure

It is estimated that the damaged truss could have been functioning by midnight of the 17th, after which the vibrations set up by our artillery, as well as by German shelling, could have been resisted. Although the structure never had what could be called a factor of safety, it was these vibrations that initiated its failure, in the opinion of Capt. James B. Cooke, structural expert in the Office of the Chief Engineer, E.T.O., who worked out the repair plan in cooperation with the Engineers of the III Corps and with Maj. William S. Carr who commanded the detachment of the 1058th Port Construction and Repair Group that handled the field job.

Artillery fire in the 24 hrs. preceding the failure was unusually severe. Starting on March 16, the heaviest U. S. guns began firing for the first time in the vicinity, and blast waves, whose effect was probably accentuated by the surrounding hills, shook the bridge. During the night of March 16, a German shell severed another hanger on the bridge, and during the morning of March 17 a salvo of five shells hit nearby. Finally, about noon, occurred the heaviest detona recorded in the period of the Rema bridgehead.

Design of the bridge

The condition of the bridge at time of failure is indicated in Fig It will be noted that the bridge i three-span structure of the continu truss type in which the center spa arched, in fact functions as an ar its continuity with the side spans curring in the spandrel bracing. bottom chord of the arch truss is principal load-carrying member. top chord acting, in large part and conjunction with the web membe merely as bracing. The bridge carr a double-track railway, so that all members were of substantial secti including those from which the ma span deck was hung.

As a matter of fact, it is Capt Cooke's opinion that the rigid fram formed at each main-span panel poi (and particularly at the portals)

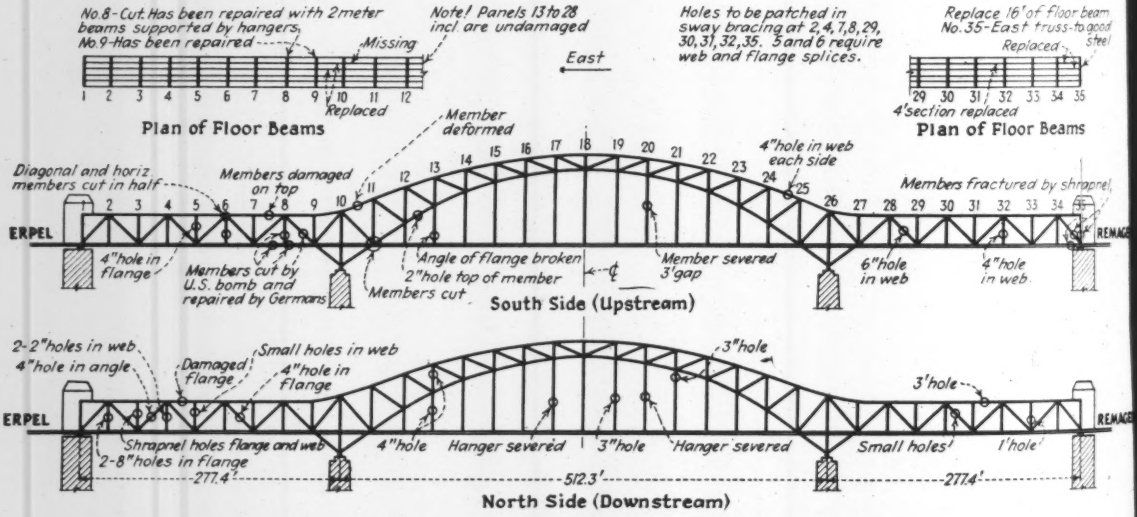
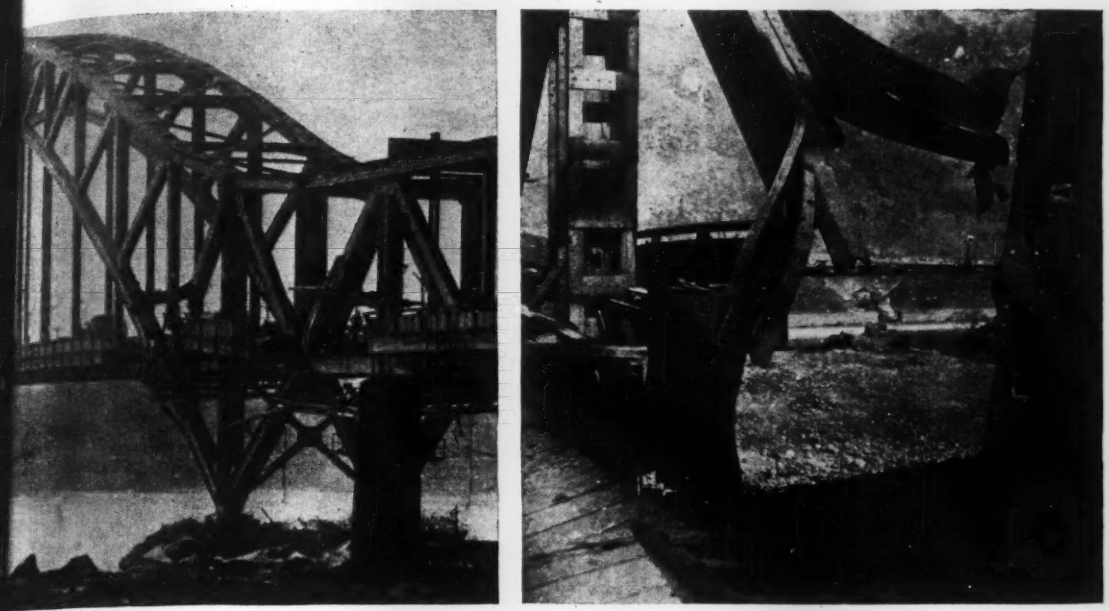


Fig. 1. A survey of the damage sustained by the Remagen Bridge showed that the first panel at the east end of the up stream truss was critically damaged, as illustrated in the above sketch. The location of other injuries sustained by th structure are also indicated. This survey was made March 14 and rechecked on March 17, the day of the collaps



2. Critical repair operations were concentrated in the damaged panel referred to in Fig. 1. Beneath the bridge deck-shown at the lower corner of the right-hand picture, the severed bottom chord of the arch was being fixed.

op sway bracing, and I-section ers and the floor-beams held the e up during its nine-day life by ferring loads from the damaged eam to the sound downstream . Also, X-bracing in the plane of op of the bridge resisted the ten-y of the top chord to twist down-. It was in the hope that these es and bracing would continue nction that the repair job on the gen bridge was undertaken.

Repair measures planned

will be noted in Fig. 1 that the ge was rather badly chewed up, that the critical damage existed e first panel of the upstream truss e east end. A German demolition ge wired to the bottom chord had oded, damaging the members rely, but not sufficiently to keep tanks from crossing. Then, three later, a German shell took out ything in this panel with the ex-ion of the top chord and the ver-post over the shoe. The bridge immediately closed to all traffic, repair measures planned. These to include:

Repair of the lower chord by ng off the broken ends to good ring, inserting a box-member e made of heavy rolled I-beams jacking in about 300 tons of com-sion if possible. Since the hang-end of the chord had deflected about 0.85 ft. (this had increased to 0.94 ft. by March 17) the splice member was to be inclined to correspond to the axis of the chord as it existed a panel or two back from the break, to counter this deflecting tendency.

2. Repair floorbeams, hangers and bracing, without any initial stressing and as soon as possible to minimize the effect of any additional shell hits.

3. Reinforce top chord after the bottom chord repair. This top chord has buckled in the web, but was of substantial section and was carrying loads across the damaged panel.

When the bridge fell some of the secondary repairs had been completed and, as stated, the damaged arch bottom chord was almost ready to take load again. Captain Cooke arrived at

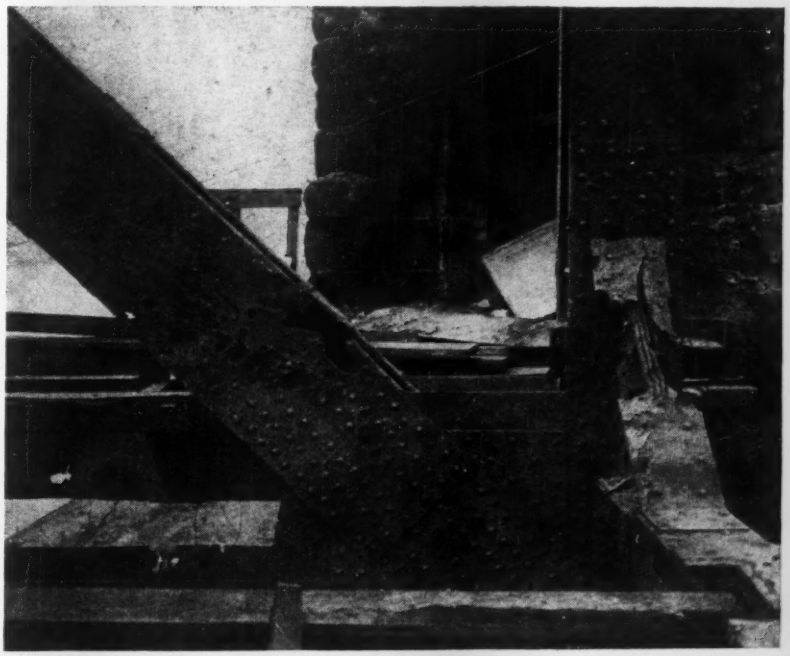


Fig. 3. This member at the west end of the bridge was fractured by shrapnel.

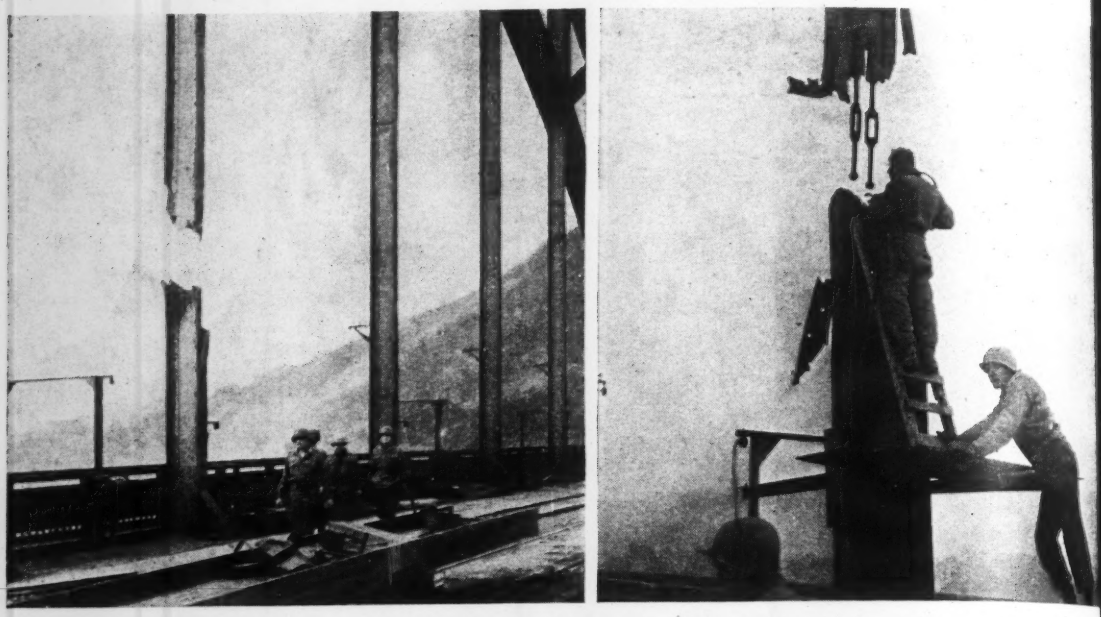


Fig. 4. Hangers severed by German shells (shown at left) were repaired with turnbuckle splices as illustrated at r

Fig. 5. The substantial size of the b ers, permitting them to act as post rigid frames (left) together with sway bracing and floorbeams, he to hold the bridge up by transfer load from the damaged to the su truss. As fast as possible, theref the broken ends were reconnecte

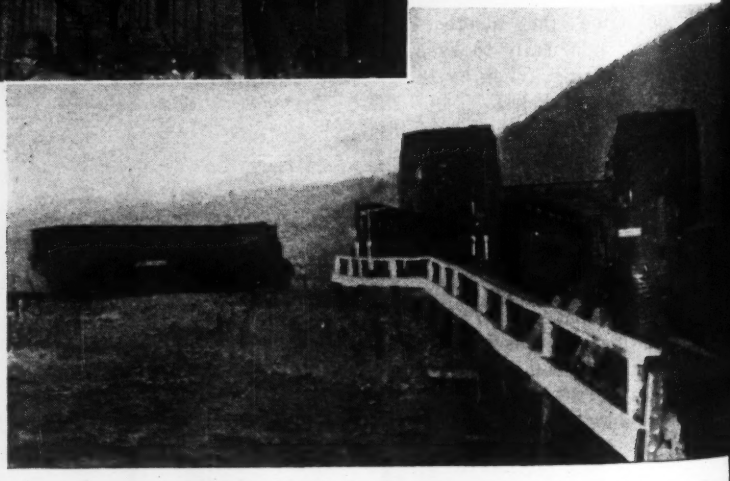


Fig. 6. Bringing up meter beams to be used in repair work. Bailey trusses are shown spanning a gap in the approach at the west end of Remagen Bridge.

gen about an hour afterwards was thus able to piece together, eyewitness statements and an ex- tion of the wreckage, an idea of occurred. His final report in- the following statement:

bridge fell at 1510 hr. 17 March There was no warning noise, such ping of rivets, and no apparent cause falling at that particular time. No action had been recorded in the ing two hours, although German, as our own shelling, had been severe 24 hr. prior to that. No work was place that would influence the struc- ward failure. In falling, the main suddenly rotated upstream, then vertically. The approach spans fted and dropped onto the dry flood resting in an upright position. In sion the bridge was standing with nall margin of safety, and it appears bration of our artillery, coupled with the enemy's artillery, caused the ailure."

actical situation unchanged

s of the Remagen bridge had fect on the tactical situation in war. since it functioned long gh for us to get the floating es across and secure the bridge- It was, however, a railroad e across the Rhine, of which will now be only those that we , and as such it would have d useful in furthering our opera- and subsequent occupation of any.

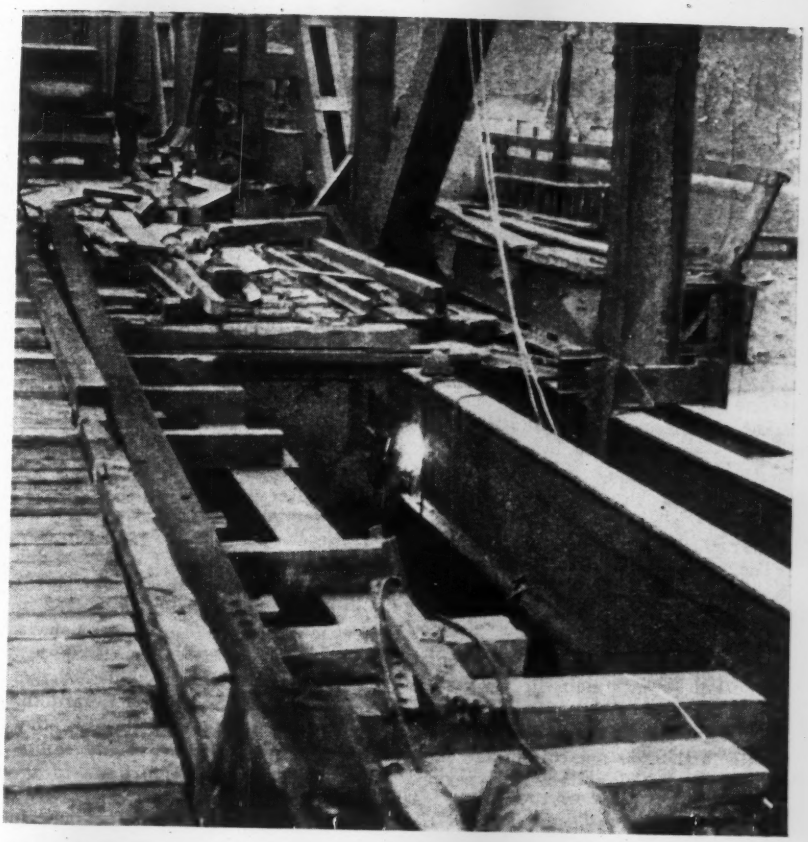
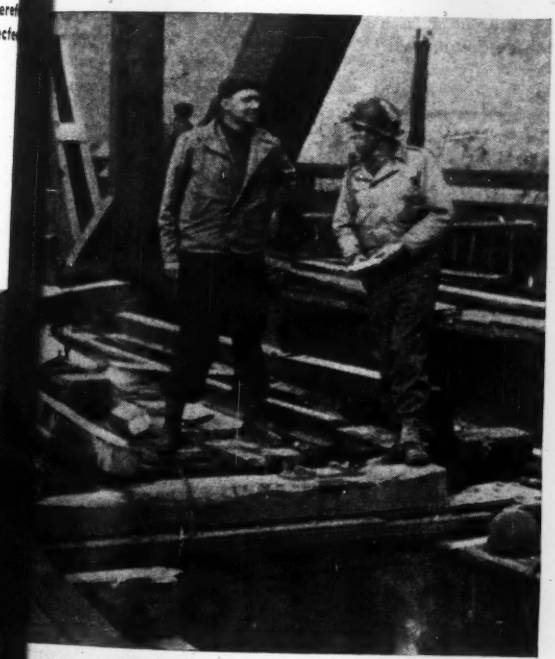


Fig. 7. In places where the floor system had been ripped away by bombs or shell-fire, repairs were made with meter-beam stringers



. On the day before the collapse, Waldo G. Bowman, editor of Engineering News-Record (left) accompanied by William S. Carr, inspected the bridge. Major Carr was in charge of the steel repair work. In the illustration at Major Carr is shown with Maj. Harold E. Nelson, planning and operations officer for the group repairing the bridge. officers were instrumental in planning the repairs. The truss member behind them previously was mended by Germans.

Los Angeles votes $10,000,000 for new sewage treatment plant

City will also build a $1,500,000 submarine outfall as part of vast sewer rehabilitation program

Two years after the California Board of Health quarantined ten miles of Santa Monica Bay beaches because of sewage pollution. Los Angeles voters approved by a landslide vote April 3 a $10,000,000 bond issue to help finance a new sewage treatment plant and submarine outfall.

The entire sewer rehabilitation program, as recommended by the Boston sanitary engineering firm of Metcalf & Eddy, will cost $21,000,000, with $19,500,000 alloted to a treatment plant and $1,500,000 for a new outfall.

The successful election climaxed years of stormy legal and political battles. Los Angeles' sewage troubles began not long after its "sewer to end all sewers" was completed in 1924. Longest outfall sewage main in the world at the time, it extends 55 miles, and 3,500 miles of tributary sewers contribute to the 200 tons of sewage sent to the screening plant daily at Hyperion on the ocean front.

City Engineer Lloyd Aldrich repeatedly warned that the Hyperion plant acts merely as a sieve, screening three to five percent of the largest solids from the flow while the remainder flows through a mile-long pipe into the ocean.

Los Angeles' permit to operate the sewage plant was suspended in May, 1942, by the State Board of Health. Engineer Aldrich applied to the Public Works Administration for a $6,000,000 grant for a plant and $2,000,000 for repairs, but this was denied. In December, 1943, California's Attorney General Robert W. Kenny filed an injunction suit against the mayor and 88 other Los Angeles officials to compel them to replace the plant and asked $1,000 a day damages for all the time it was operated without a permit.

However, the attorney general consented to repeated continuances of this suit in hopes of action and the threat of $1,000 a day in fines was waved at voters by a citizens' committee sponsoring the bond issue.

Engineer Aldrich now hopes to get the state to pay $6,000,000 toward the project and trusts that the 14 other cities and parts of five county sanitation districts which contribute to the Hyperion plant will pay $5,000,000.

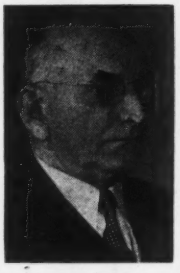
Construction is expected to begin only after the bonds are sold, War Production Board priorities for materials are obtained and designs (now only ten percent drawn) are completed. The work will be split into numerous small contracts, Aldrich said, and will take at least two years.

Ask modernization of the Hennepin Canal in Illinois

Modernization of the Hennepin Canal, from Hennepin, Ill., on the Illinois River, to Rock Island on the Mississippi, at an estimated cost of $26,000,000, is being asked by the Mississippi Valley Water Use Council in an appeal sent to the governors of Illinois, Iowa, Wisconsin and Minnesota. Improvement of the canal would shorten the water route between Chicago and the Minneapolis-St. Paul area by 400 miles and increase traffic between the two rivers.

The Rock Island district of U. S. Engineers is now engaged in making a study of the canal, its resources and possibilities. Improvements considered include new locks and the reduction in the number of present locks from 32 to five or six, and the deepening of the canal to a uniform depth of 9 ft. The state owns a right-of-way of 500 ft. along the present canal which was built in 1907.

Charles M. Clark, ex-head N. Y. water supply, dies



Charles M. Clark, 72, retired chief engineer of the New York City Board of Water Supply, under whose supervision the $300,000,000 Delaware Aqueduct was developed, died at White Plains, N. Y., on April 6.

Mr. Clark had an unusual career in engineering. He was graduated from the Potsdam, N. Y., Normal School at 19. After teaching school for a short time at Goldens Bridge, N. Y., he went to work as a laborer for the old Croton Aqueduct Commission of New York. He studied engineering at night through a correspondence course. In 1940 Clarkson College of Technology conferred on him an nonorary degree of Doc Engineering.

Mr. Clark rose to assistant en on the Cross River Dam in 1905 a 1908 was transferred to the Boa Water Supply, becoming Croton sion engineer in 1912. He was o Shandaken tunnel and in 1921 placed in charge of construction o 28 siphons needed to bring the Ca aqueduct up to its full capacity. In he was made department engine charge of the City Tunnel No. 2 became deputy chief engineer o Board of Water Supply in 1936 the Delaware-Roundout system started.

Under Mr. Clark's direction deputy chief engineer and chief neer, much of the work on the firs tion of the 85-mi. Delaware Aqu has been completed. At his own req Mr. Clark retired as chief engine the Board of Water Supply on Ja (*ENR* Dec. 21, 1944, vol. p. 788)

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Fay and Bove sentence for extortion

Joseph S. Fay and James Bove cently convicted on charges of con ing to extort and extortion from tractors working on the New York Delaware Water Supply project, sentenced to 8½ to 16 years' impri ment.

On the conspiracy count, (March 22, vol. p. 370), said by the District Attorney F. S. Hogan to involved at least $703,000 on the 85 aqueduct, each man was sentenced year in the New York City penitent and to pay a $500 fine. On the one co of extortion of which they were victed, each was sentenced to 7½ years at Sing Sing prison.

The two American Federation Labor building trades officials were tenced on April 5 by Justice Wil H. Munson in a special criminal of the N. Y. Supreme Court with comment that if reprisals were tempted against witnesses "the will recommend that the maximum tences be served."

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Pennsylvania ratifies Ohio River compact

Gov. Martin of Pennsylvania on A 2 signed the Ohio River Valley w sanitation compact bill ratifying reservations, Pennsylvania's partic tion in an interstate agreement for trol and abatement of stream poll in the Ohio River basin.

WASHINGTON HIGHLIGHTS

Senator Mead of New York, chairman of the Senate War Investigating committee, recently announced that it had started an investigation of the Alcan Highway to determine what future plans the War Department has with respect to the highway. The committee will make a full investigation into all phases of the project, including present utilization and final disposition.

Used lumber prices, which have skyrocketed in some areas to levels exceeding ceilings of equivalent grades of new material, will be placed under dollar-and-cent ceilings as the result of a pricing order issued last week by the Office of Price Administration. This order authorizes regional and district administrators to establish specific ceilings on used lumber. The exact ceilings must be posted in dealers' yards at so many dollars per 1,000 bd. ft., according to the order. The new OPA order, effective April 2, 1945, authorizes OPA regional administrators to establish community dollars and cents ceilings for used lumber and to redelegate this authority to OPA district directors.

The Navy has been planning for well over a year to change the shipbuilding yards on the West Coast from building to repair operations, Rear Admiral Cochrane, Chief of the Bureau of Ships recently indicated. That was the reason for putting construction work on the West Coast in the first place, he reports. Last year the Navy transferred back to the East Coast $300,000,000 worth of shipbuilding, which opened up a number of yards for repair work. Now beginning to be employed for repair work are Navy operated yards in Washington state, and at Portland, Ore., and San Francisco and Los Angeles, Calif.

The War Production Board has approved priorities for a $200,000 water department expansion program at Waco, Tex. The Federal Works Agency has made a tentative promise to pay the water department 40 percent of the cost of the project if and when it gets the money.

Subject to the approval of the Waco water board, the program includes the cleaning of present water mains; the buying and installation of pumps at the filtration plant to increase water production; and the construction of new 20-in. and 12-in. water mains.

BRIEF NEWS

Postwar projects to cost $6,208,000 have been approved by the city commission of Grand Rapids, Mich. The major item is a limited-access highway in the southwest part of the city to cost about $3,300,000. According to Floyd Jennings, city planning director, the thoroughfare would be co-ordinated with the federal inter-regional highway program and the cost would be met from federal and state funds. Twenty-four major projects include street widenings, sewers and water mains. A secondary sewage treatment plant to cost $1,000,000 was tentatively approved.

The Mexican government has announced that the National Irrigation Commission has set aside $10,000,000 for irrigation work in 1945. At the same time, the government announced that through efforts of the U.S.-Mexico joint railway commission an additional appropriation of $2,500,000 had been received through lend-lease for work on the National Railways in 1945.

The Arkansas Utilities Commission has granted the application of the Southwestern Water Co., Inc., to build a dam across Two-Prairie Bayou in Lonoke and Prairie counties, and to use the water for irrigation of rice farms. The reservoir, dam, and irrigation canals, including right-of-way and other expenditures, will cost about $260,000.

Preliminary steps to get the city's proposed $7,000,000 sewage treatment plant and interconnecting sewerage system 'on a sound planning basis" so that construction can be started this year have been taken, Mayor Wilson W. Wyatt of Louisville, Ky., reports.

Mr. Wyatt said the planning was initiated at a conference of K. P. Vinsel, director of Louisville Area Development Association; City Engineer James Wilson, Works Director Frank Hill, and also by representatives of the Russell B. Moore consulting engineer firm of Indianapolis, Ind.

Scheibel & Kerr photo

Mill building fabricated with cold-driven rivets

In the fabrication work on heavy mill building construction for the Pittsburgh area cold-driven riveting is being used by Fort Pitt Bridge Works of Pittsburgh. This is the first structure in the Pittsburgh district to be fabricated by that process.

The cold rivet is driven under sufficient pressure to enlarge the shank to fill the hole completely before the head is formed. This results, it is claimed, in a greater stress-carrying value and improved workmanship as compared with hot-driven rivets.

The above photographs show a finished girder fabricated for a mill building and a shop view of the cold riveting process.

Illinois state legislature approves Chicago Transit Authority

Plan calls for public construction, ownership and operation of a unified transit system in the city and surrounding communities

Public acquisition and operation of a unified transit system in Chicago and most of Cook County has been authorized by the Illinois state legislature. Governor Dwight H. Green has promised to sign the enabling act this week. However, the plan will become operative only when approved by a referendum vote in Chicago and the affected surrounding towns. The proposition will be submitted to the voters in Chicago on June 4 at the time of a judiciary election. If Chicago citizens approve the scheme, it will go into operation there. Then it will be extended to only those outlying communities as vote favorably, though the Transit Authority would have the right to operate through any town to reach a community beyond which desires transit service.

Under the act a Chicago Transit Authority would be established, consisting of a board of seven members, four to be appointed by the mayor of Chicago, three by the governor. At first, terms would be staggered from 1 to 7 years to allow for ultimate replacement or reappointment of one member every year for a 7-year term. Board member salaries are set at $15,000, except that of the chairman, whose compensation would be set by the board. A general manager, chief engineer, secretary-treasurer and general counsel would also be appointed. The chairman may veto any action of the board, but the veto may be over-ridden by five votes.

The Authority would have the power to construct, acquire, own, operate and maintain transit facilities in the city and county. Under present plans the Chicago Surface Lines and the Rapid Transit (subway-elevated) System would be acquired at once, along with their present cash reserves. At a proposed price of $75,000,000 for the street car lines and $12,160,500 for the Rapid Transit facilities, plus the available cash, stockholders of each system would receive $85,000,000 and $14,250,000, respectively.

Financed by revenue bonds

The Authority would have the power to issue revenue bonds, limited to a maximum life of 40 years and interest at 5 percent, as well as equipment trust certificates. About $58,000,000 additional cash would be needed to purchase the above facilities. Under power of eminent domain the Authority could condemn any property or facilities require except railroad and interurban lines. However, joint use and fare agreements may be made with existing lines.

Values of the street car and elevated lines were established by recent negotiations to consolidate the two facilities. At that time the Chicago Motor Coach Co., operating the city's bus lines, set a value considered too high to permit incorporating the bus routes into the unified system. The Authority could condemn the bus lines under the act, but probably would not do so in favor of establishing a competing system. The present bus lines are operating on a limited temporary franchise.

In acquiring the existing transportation systems the Authority is required to maintain present working agreements, seniority rights and pension plans. All purchases and construction work exceeding $25,000 must be let under open competitive bidding, and no relative to the fourth degree of any board member may participate directly or indirectly in any contract.

Big modernization program

An immediate modernization program costing $125,000,000 [illegible] already [illegible] outlined. Included [illegible] 1,000 new [illegible] way-elevated cars, [illegible] 650 streamlined street cars, 1,350 bus[illegible] and 1,850 motor buses or street cars, depending upon determination as to type of operation. Extension of existing facilities includes 250 miles of local bus routes, 165 miles of express bus lines, and bus substitution for 325 miles of present street car lines.

YOU CAN HELP SAVE PAPER FOR WAR

Paper is a Number 1 war material shortage—because over 700,000 different *war* items are wrapped, packaged, labelled, tagged, or made from paper or container board. The Pacific war, when it speeds up, will require stupendous amounts of paper and board since double and triple packing are required for protection against weather, insects, etc.

So please—

1. Share this magazine with your associates. Because of the paper shortage, the number of copies is limited.
2. Organize for a continuous drive in your office and plant to collect waste paper of any kind to put into paper salvage. Clean out old files, dead correspondence, obsolete records, useless display materials, cartons, etc.

Aid the war effort—speed victory—DO THIS EXTRA BIT TO HELP.

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New Army construction totals $324,000,000

Unfinished business confronting the Construction Division, Office of the Chief of Engineers, as of March 1 amounted to $324,492,000, according to the War Department. Remaining work on all programs for which funds are provided is divided as follows: Air Forces, $37,432,000; ground forces, $31,864,000; industrial facilities, $229,873,000; storage and shipping, $20,200,000; and miscellaneous $5,123,000.

Because of the increasing number of wounded being returned to the United States daily, work of adding beds to the general hospitals and building convalescent hospitals is being pushed to the utmost by the Army Engineers. The estimated cost will be $27,602,500. Present plans call for the addition of 44,338 beds at general hospitals and a total of 50,850 beds in convalescent hospitals, making a grand total of 95,188 beds now planned. These figures, which are constantly subject to change, apply to hospitals in all parts of the country and, with approximately 119,000 beds already in operation, will give the Army about 214,000 beds.

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Civil functions bill signed by President

Recently the War Department Civil Functions Appropriation Bill providing for $112,450,000 for civil works for the fiscal year 1946 was made law by the President adding his signature. It contains $44,508,000 for river and harbor work by the Corps of Engineers, including $35,388,000 for maintenance and operations control, $3,500,000 for preliminary planning and surveys and $5,620,000 for new construction.

A $24,172,000 appropriation is for flood control work in general, and $30,000,000 for flood control work on the lower Mississippi. The law also contains an $8,108,000 item for Panama Canal Zone operations.

A breakdown of the work for which funds are provided was given in *ENR* Mar. 15, 1945, vol. p. 356.

Los Angeles to vote on airport bond issue

A $12,500,000 bond issue to finance largement and improvement of the Angeles Municipal Airport will go fore voters of the city May 1 follow- the recent adoption by the city coun- of a resolution recommended by the izen's airport committee and the nicipal board of airport commis- ners.

The bond issue, together with $2,000,- 0 remaining from a 1941 airport bond ue, would provide sufficient funds to ace the Los Angeles airport in a class th airports of San Francisco, New rk and other large cities bidding for stwar commerce, it was reported.

The plan is to expand the present le-square municipal airport, which presents a $5,900,000 investment, to 400 acres.

A board of technical experts headed Arthur Ayres and composed of repre- ntatives of the Civil Aeronautics oard, air lines and airport engineers dvocated the enlargement and im- rovement of the municipal terminal.

Situated near Inglewood, southwest Los Angeles, the airport will be nked with the downtown area by a eeway which has top ranking among e city's highway construction plans.

Present plans call for extension and aving of one present runway to a 7,000- length, with grading continuing for ,000 ft. more, and paving of a new arallel runway 7,000 ft. long. A load- g ramp would provide for simultane- us loading and unloading of 12 parked ir liners and additional ramp space for parked planes of the large class of e future will be set aside. Parking pace for 5,000 automobiles would be rovided under the plans.

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Potomac dams project abandoned by Army

Following the development of exten- ive opposition and only few organiza- ions coming out in favor of the pro- gram, last week the Board of Engineers or Rivers and Harbors reported that it plans to reject the Corps of Engineers recommendation for the construction of 4 dams on the Potomac River and its ributaries.

More than 1200 people from Mary- land, Virginia and West Virginia gath- ered in Washington April 3 to voice their objections to the proposal.

Estimated cost of the program was et at $235,720,000. A brief description of the proposed work was published in ENR Feb. 22, 1945, vol. p. 244.

TVA adds 158,000 kw. to its power system

In the past two weeks the Tennessee Valley Authority has connected three generating units with a total capacity of 158,000 kw. to its power system. These units have a capacity 1½ times that of Norris Dam of the TVA system.

The capacity added is as follows: a fourth unit, steam, installed at Watts Bar, 60,000 kw.; a second unit, hydro, at Fontana Dam, 66,000 kw.; and a third unit, hydro, at Kentucky Dam, 32,000 kw.

Total installed capacity of the TVA system is over 2,000,000 kw. from which more than 10 billion kw. hr. of electricity was generated in the last fiscal year. Most of this power was delivered to vital war industries.

Tolls to be placed on Westchester parkways

Beginning next Feb. 1, Westchester County, N. Y., will collect tolls on automobile traffic on its Hutchinson River and Saw Mill River parkways. Governor Thomas E. Dewey signed a bill for that purpose on April 9.

These parkways will be withdrawn from the federal-aid system. The original grant will be repaid by crediting an equal amount ($2,500,000) against vouchers hereafter submitted by the state to the federal government on other projects within a five-year period. The state will advance the money from its postwar reconstruction fund and the county will pay it back from toll receipts, which in normal years are expected to amount to $1,100,000.

Surplus property sales by Treasury Department

Treasury's Office of Surplus Property, a disposal agency designated by the Surplus Property Board, has announced a new nation-wide synchronized spot sales program for the disposal of surplus construction machinery. The schedule is as follows:

May 7-8-9 June 4-5-6 July 2-3-4	BOSTON, MASS. J. D. Tompkins, Regional Director Park Square Bldg.
May 3-4-5 June 7-8-9 July 5-6-7	NEW YORK CITY Col. Frank L. Seymour, Regional Director 350 5th Avenue, Empire State Bldg.
May 14-15-16 June 11-12-13 July 9-10-11	WASHINGTON, D. C. M. P. Shlesinger, Regional Director 499 Pennsylvania Ave., N.W
May 10-11-12 June 14-15-16 July 12-13-14	CINCINNATI, OHIO R. D. Schell, Regional Director Commercial Arts Bldg., 704 Race Street
May 21-22-23 June 18-19-20 July 16-17-18	CHICAGO, ILL. F. A. Mapes, Regional Director 209 LaSalle Street
April 26-27-28 May 24-25-26 June 28-29-30 July 26-27-28	ATLANTA, GA. H. E. Harman, Jr., Regional Director Bell Isle Building
April 23-24-25 May 28-29-30 June 25-26-27 July 23-24-25	FORT WORTH, TEX. Hamilton Morton, Regional Director 609 Neil P. Anderson Bldg.
April 19-20-21 May 17-18-19 June 21-22-23 July 19-20-21	KANSAS CITY, MO. Thomas C. Stephens, Regional Director 2605 Walnut Street
May 15-16 June 19-20 July 17-18	DENVER, COLO. Alden W. Pool, Regional Director 7th floor, Exchange Bldg., 1030 15th St.
May 8-9-10-11-12 June 12-13-14-15-16 July 10-11-12-13-14	SAN FRANCISCO, CALIF. John F. Hough, Regional Director 30 Van Ness Ave.
May 1-2-3-4-5 June 5-6-7-8-9 July 3-4-5-6-7	SEATTLE, WASH. Orrin C. Bradeen, Regional Director 2005 5th Avenue

MEN AND JOBS

Col. John Ward Wheeler, formerly in charge of construction on the Alcan Highway and now chief engineer of a U. S. Army Corps on the western front, has received the Bronze Star "for initiative, untiring energy and intimate knowledge of the technical capabilities of the engineering troops and materials, which insured that equipment was available to enable combat troops to force a crossing of the Roer River when it was in flood and roads were broken down."

Harold B. Gotaas, director of the Health and Sanitation Division, Office of Inter-American Affairs, was advanced in rank from lieutenant-colonel to colonel in the Sanitary Corps on Mar. 27. Earlier in the month, when Colonel Gotaas visited Bolivia, he was honored by the Bolivian government with the award of the Order of the Condor of the Andes for his services in promoting public health in that country.

Paul H. Meyer, Walla Walla, Wash., engineer, has been named street superintendent there. He was assistant city engineer from 1925 until 1935, since which time he has been with various federal agencies.

Capt. Clyde R. Harvill, formerly sanitary engineer for the Houston, Tex., city water department, is now in France with the Sanitary Corps of the U. S. Army. He was recently cited for putting the city water systems in Brittany back into operation.

Lt. Col. James Fielder Kerr, formerly on flood control work at Houston, Tex., is now serving with the Corps of Engineers, U. S. Army, in the Pacific theater of operations.

Burwell Bantz, director of the Washington State Dept. of Highways, has been appointed city engineer at Tacoma. **Oscar H. Hallberg,** principal assistant city engineer, has been acting as city engineer since the death a year ago of Carl D. Forsbeck. Mr. Bantz was graduated in civil engineering at the University of Washington in 1909. He was city engineer at Chehalis, Wash., from 1918 to 1929 and Lewis County engineer from 1933 to 1941. He was construction engineer in charge of the Centralia, Wash., hydroelectric project on the Nisqually River.

Col. Lacey V. Murrow, director of the Washington State Dept. of Highways until 1941, has become an assistant to Maj. Gen. Robert S. McClure, deputy director of the Chinese war transport board.

Lt. Col. Stewart A. Marshall, Jr., Rome, Ga., has become post engineer at Lockbourne Army Air Base, near Columbus, Ohio, replacing **Capt. J. S. Clements,** transferred to Stuttgart, Ark. Col. Marshall is known for his building of Fort Jackson and Columbia Army Air Base in South Carolina, a $35,000,000 project. At Fort Jackson, he introduced huts instead of tents for living quarters. His plan was adopted by the War Department.

2nd Lieut. Harvey N. Terry, Jr., of Jacksonville, Fla., a veteran of overseas duty, was appointed engineering officer at the Pueblo Army Air Base, Colo., recently.

Ernest M. Nuler, Detroit, Mich., has been promoted to captain in the Aviation Engineers. He has been on duty in Italy since May, 1944. Prior to his enlistment, he was with the Ford Motor Co.

Albert W. Goodwin of Santa Fe, N. M., has been assigned to the United States Geological Survey office at Asheville, N. C., as associate engineer after having been with the geological survey office at Santa Fe for a number of years. He succeeds Raymond Leonard, who resigned last September.

Lee Page, Grundy Center, Iowa, who was county engineer of Grundy County for 16 years, is now with Beu & Sons, road contractors at Sumner, Iowa.

Maj. Numa R. Ham, Jr., of Greensboro, N. C., was awarded the Bronze Star Medal recently for "meritorious service as engineering officer of a subdepot organization" of the Army Air Corps in England. Major Ham joined the Aviation Engineers in 1941.

Alan K. Hay has resigned as engineer to the Ottawa, Ont., Suburban Roads Commission in order to become superintendent of the Federal District Commission for the Ottawa area. Mr. Hay is succeeded by **John Leabourn Shearer,** who has had wide experience in engineering work in Ottawa, and in the west of Canada.

Col. Robert E York, recently returned from the China-Burma-India theater, has assumed command of the Granite City Engineer Depot, Granite City, Ill. He succeeds **Col. James B. Brownell** who has been assigned to other duties. Col. York was graduated from West Point in 1918.

Elbert K. Abberley, an engineer associated with Turner Construction Co. New York City for thirty years, and head of its engineering department since 1931, has been elected a director of the company.

William Stack, civil engineer and land surveyor of Ocala, Fla., will resume engineering duties with the M. W. Kellogg Co. on the construction of a refinery unit for the Gulf Refining Corp. at Girard Point, Philadelphia, Pa.

County Engineer Hugo Zapp of Houston, Tex., has announced the following additions to his staff: **Peter John Rusch, Leslie Eugene Ogilvie, Jr.,** and **Harold Ash** as full-time designing and construction engineers. **James G. McKenzie** and **William J. Carlin** also have been added as part-time construction engineers.

Elmer W. Swanson of Coeur d'Alene, Idaho, has been appointed by the Idaho State Dept. of Public Works to the position of district highway engineer for Shoshone, Kootenai, Benewah, Boundary and Bonner counties, with headquarters at Coeur d'Alene. He succeeds **D. M. Faires,** who has been named highway design and plans engineer for the state at Boise.

For outstanding service as labor relations officer and chief of civilian personnel of the Persian Gulf Command's Desert District in Iran **Maj. William L. Crow** has recently been awarded the Bronze Star Medal.

Major Crow, an Army Reserve officer since his graduation from Princeton in 1933, was called to active duty in the U. S. Engineer Corps in April, 1942, to serve in the 334th Engineer Regiment. In civil life he is president of William L. Crow Construction Co., 101 Park Avenue, New York City.

hine flood predictions

(Continued from Page 3)

together with their own precipi- data. Highest priority permits mission as early as available. The o Luxembourg broadcasts are in- ced by the playing of a recording Ole Man River" and can be heard ltaneously by every Engineer Bat- n or staff headquarters along the e.

Operations personnel

il Hathaway, for several years engineer of the Reservoir Opera- and Hydrology Section, Civil ks Division, Office of the Chief of ineers, set up the flood prediction ice, drawing from all resources ilable to the Engineer Department in long study of the world's major erways. At the direction of SHAEF, Hathaway acted as the representa- of Maj. Gen. Cecil R. Moore, f engineer, E.T.O. Maj. A. L. hrane of the Design Section, Con- ction Division, of General Moore's dquarters, and a former assistant to Hathaway, prepared preliminary

hief of the flood prediction section Maj. George H. Mittendorf, former stant to the division engineer of the th Atlantic Division in Atlanta, Ga. ong the civilian specialists in the ion are D. C. Cameron from the shington, D. C. Weather Bureau, and F. Snyder, hydrologist with the e of the Chief of Engineers. Lt. J. Edson, of the Ninth Air Force's Weather Squadron was assigned he flood prediction service to handle communication liaison.

n commenting on the success of the d prediction service, Maj. Gen. Eu- e Reybold, Chief of Engineers, said, his is one more example of how tech- al experience acquired during the rs of peace is being used to hasten tory."

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Panhandle purchasing control of Stewart & Co.

Panhandle Producing & Refining Co. made preliminary negotiations to chase 50.7 percent of the outstand- stock of James Stewart & Co. for ut $2,000,000. According to Harry Watts, president of the Stewart or- ization, the building construction erations of his firm will not be cur- ed. On the contrary, they may be ex- nded because of the enlarged finan- l structure. Part of the purchase reement includes an option for wart executives to purchase common ck of Panhandle.

News of the Engineering Schools

Lt. Col. J. T. L. McNew, who was named vice president in charge of engineering at the Agricultural & Mechanical College of Texas upon his release from military service in January, is a graduate from that school in civil engineering and took postgraduate work at Iowa State College. He served as a second lieutenant in the Corps of Engineers in World War I and has been on the teaching staff of Texas A. & M. since 1920, serving as professor of highway engineering from 1925 to 1939 and as head of the civil engineering department from 1929 until he was called into active service as a lieutenant colonel in the Corps of Engineers. He served on the staff of the Air Engineer in the China-Burma-India Theater.

A corrosion research laboratory has been established at the Illinois Institute of Technology under the direction of Hugh McDonald, to conduct a long-range research program on corrosion, and to serve as a means of graduate instruction.

E. G. McKibben, head of the Michigan State college engineering department, has submitted his resignation and will join the staff of the Pineapple Research Institute in Hawaii to be in charge of all engineering. He went to Michigan State College from Iowa State College in August, 1942.

Charles S. Pillsbury, vice-president and production manager of the Chicago Bridge and Iron Co., and president of the Illinois Foundation, University of Illinois, announces plans of the foundation to employ a full-time manager, one of whose duties will be to interest individuals and corporations in making gifts for special research in engineering.

JOBS OF THE WEEK

TRANSMISSION LINE, California and Nevada.

Southern California Edison Co., Los Angeles, Calif., awarded a contract for 130-mile 220,000 volt transmission line from Los Angeles to Boulder Dam, Nev. and a substation at Highgrove, Calif., to Stone & Webster, Redlands, Calif. The estimated cost is $4,500,000.

MANUFACTURING BUILDINGS, McKeesport, Pa.

National Tube Co., Pittsburgh, Pa., awarded a contract to build a 1-story, 675x150 ft. steel brick plant, alterations and additions to present buildings to Mellon Stuart Co., Pittsburgh, Pa. The estimated cost of the building is $1,000,000; total cost with equipment $3,800,000.

TOLUENE MANUFACTURING PLANT, Borger, Tex.

Bechtel-McCone Co., Los Angeles, Calif., will construct a toluene manufacturing plant to cost $6,600,000. Phillips Petroleum Co., Bartlesville, Okla. will operate the plant, which will be financed by Defense Plant Corp.

HOSPITAL, Tomah, Wis.

Gust K. Newburg Construction Co., Chicago, Ill., was the lowest bidder for hospital, when Veterans Administration, Washington, D. C., opened bids, at $4,855,000.

GRADING, DRAINING, PAVING AIRPORT, Idlewild, N. Y.

Department Marine & Aviation, City of New York, N. Y., received the lowest bid from Gull & DeFelice, Brooklyn, N. Y., for grading, draining, and paving municipal airport, Contr. 2434 at $2,345,000.

DWELLINGS, Redondo Beach, Calif.

Eric Flodine, Los Angeles, Calif., will construct 372 dwellings by his own forces. The estimated cost is $2,000,000.

CATALYTIC CRACKING PLANT, Lockport, Ill.

Texas Company, Lockport, Ill., awarded a contract for the construction of a catalytic cracking plant to M. W. Kellogg Co., New York, N. Y. The estimated cost is $15,000,000.

Note—Additional bidding and contract news on many projects large and small appear in the Construction News section beginning on page 15.

OBITUARY

Jerome H. Loucheim, 71, head of Loucheim, Brown & MacDonough, contractors, died in Philadelphia, Pa., on April 4. He was a member of one of the three companies that built the North Broad Street subway and he completed the construction of the Market Street subway. His firm and other companies in which he was interested handled many other large construction jobs in Philadelphia and elsewhere, among them: The 4-track tunnel through Bergen Hill, N. J., for the Erie Railroad; tunnel enlargement and improvements at Greensburg, Pa., for the Pennsylvania Railroad; the Queen Lane Filtration Plant and Frankford Elevated Railroad, both in Philadelphia; Delaware River Bridge between Philadelphia and Camden, N. J., and the Scituate Tunnel, Providence, R. I. Mr. Loucheim attended the University of Pennsylvania and entered the contracting and supply business in 1893. He was vice president and general manager of Millard Construction Co. and its successor, Keystone Construction Co. from 1906 to 1927, and the reorganized firm, Keystone State Corp. until 1933.

William Trinkaus, 81, an employee of the Sanitary District of Chicago since 1891, died April 1 in that city. He was the father of William H. Trinkaus, chief engineer of the district.

T. Wilson Battin, 71, an engineer with the Department of City Transit, Philadelphia, Pa., died there March 21. He was one of the founders of the Pennsylvania Society of Professional Engineers.

Frederick W. Keachie, 88, a general contractor for many years, died March 26 in Madison, Wis.

Walter C. Phifer, 64, for five years superintendent of the Cumberland County, N. J., road department, died March 27 at Millville, N. J.

Frank L. Dorr, 64, civil engineer, died in Kansas City, Mo. recently. Mr. Dorr attended Lehigh University. During 30 years, Mr. Dorr had been engineer in charge of construction work for three railroads, the Kansas City Southern, the Missouri Pacific and the Wabash.

Egbert Stephen Needham, 57, originally from St. Paul, Minn., but resident in England since the last war, died March 13 in London, while contributing to a discussion at the Institution of Civil Engineers. A steelwork construction engineer and a welding expert, he had had varied experience in many parts of the world—the United States, the British Isles, the West Indies, Colombia, the Near East, Turkey, and latterly in France. His last job was as civilian engineer with the U. S. Army. He moved into Normandy only a few weeks after D-Day and was soon operating in Paris. He was invalided back to England toward the end of 1944.

Walton W. Gill, 47, civil engineer in the Alameda County, Calif., surveyor's office for 19 years, died April 2.

James J. Ryan, 78, Muscatine, Ia., who formerly served as Muscatine County and city engineer, died recently.

Victor J. Staib, 61, Sycamore, Ohio, road contractor, associated with the U. S. Engineer Corps since the outbreak of the war, died April 6 on a train en route to St. Louis.

L. E. Gardner, 47, of Waco, Tex., died at Los Angeles, Calif., April 1. Mr. Gardner was construction superintendent for the M-M-M Construction Co. of Los Angeles.

Gordon B. Cooper, 65, Jacksonville, N. C., civil engineer, died April 5. He was formerly connected with the North Carolina Highway and Public Works Commission. Later he was engineer in charge of malaria control in Pitt and Edgecomb counties in North Carolina and returned to Jacksonville in 1941 to engage in private practice.

Sydney A. Lake, aged 61, chief engineer with the Dominion Construction Co., Vancouver, B. C., died in Vancouver recently. He had been with the company since 1921.

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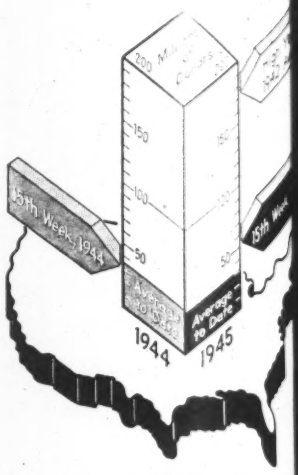
Maj. Gen. Beach, ex-chief Corps of Engineers, dies

Maj. Gen. Lansing Hoskins Beach, 84, chief of the Army Corps of Engineers from 1920 until his retirement in 1924, died April 2 at the Pasadena, Calif., Army Regional Hospital.

A West Point graduate in 1882, General Beach, acted as the United States Commissioner to determine the Texas-Indian Territory boundary dispute in 1886 and served as District of Columbia engineer-commissioner from 1898 to 1901. During World War I he was in European service. In recent years he served on the Los Angeles County Housing Authority.

CONSTRUCTION ACTIVITY



As Reported This Week to... *Engineering News-Record*

CONTRACT VOLUME

Continental U. S. Only (Thousands of Dollars)

	Week of Apr. 12 1945	Cumulative 1945 (15 wk.)	Cumulative 19 (15 w
Federal	$20,163	$266,287	$
State & Municipal	4,343	53,404	
Total Public	$24,506	$319,801	$
Total Private	27,651	146,272	
U. S. Total	**$52,157**	**$466,073**	$

WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

Type of Work	Dollar Volume (Thousands) This Week	Cumulative 1945 (15 wk.)	Cumulative 19 (15 w
Waterworks	$498	$10,043	$
Sewerage	136	8,718	
Bridges	29	7,786	
Highways	4,524	34,822	
Earthwork, Waterways	856	10,568	
Buildings, Public	14,847	194,914	
Industrial	19,138	104,661	
Commercial	3,825	25,804	
Unclassified	8,304	68,757	

NOTE: Minimum size projects incl... are: Waterworks and waterways proj... $15,000; other public works, $25,000... dustrial buildings, $40,000; other bu... ings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1945 (15 wk.)	Cumulative 19 (15 w
NON-FEDERAL	$182,647	$
Corporate Securities	41,867	
State and Municipal	126,480	
RFC Loans	14,300	
FEDERAL	$77,137	$
Total Capital	**$259,784**	$

ENR INDEX NUMBERS

Index Base = 100		1913	19
Construction Cost	Apr. '45	306.43	
Building Cost	Apr. '45	238.46	
Volume	Mar. '45	103	

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager *SCOTT McLEOD, Statistics* *J. A. MAHONEY, Reports*

(Daily service also available—Write for details)

WATER SUPPLY

OSED WORK

. El Dorado—General Waterworks Pine Bluff, C. E. McCloy, pres., Pine WW sys. imprvs. $50,000.

ff., Holtville—Yards & Docks, Navy 18 St. and Constitution Ave. N.W., 25, D. C., replacing watermains at Auxiliary Air Station. $40,000.

Hahnville—St. Charles Parish School Hahnville, rejected bids Feb. 6, water and purification sys. Shourds, Mogabe Bean, Audubon Bldg., New Orleans, CD 2/13—ENR 2/15, under LB.

., Buchanan—City, City Hall, WW sten. $25,000. C. E. Williams, South Ind., engr.

Y., Poughkeepsie—Bd. P. Wks., City bids soon 600 to 800 ft. c.i. river intake $133,000. Malcolm Pirnie, 25 W. 43 St., York, Zone 18, engr.

x., Kelly Field—U. S. Eng., Fort Sam ton, bids soon addnl. c.i. water lines, No. W-41-154-45-107. Over $15,000. CD —ENR 4/5.

ASKED

Bids Asked April 16

n., Rocky Hill—State Comptroller, Office Bldg., Hartford, watermains, ary and storm sewers, utilities, Veterans ital. Over $25,000.

Bids Asked April 27

d., Hyattsville—Washington Suburban ary Comn., Hamilton St., furnishing, ge 500,000 gal. welded steel elevated tank, incl. foundations, Contr. 185-W. Hall, ch. engr., adv. ENR 4/12.

Bids Asked April 30

n., Hartford—Bd. Contr. & Supply, politan Dist., R. Dillon, clk., 650 Main Hartford, laying, installing about 1,850 in. cement lined c.i. pipe, etc., from St. to Winsor St. via Pleasant St., and Street and Avon St., Contr. 85; ft. 10 in. line and wrapped steel pipe 120 ft. 10 in. cement lined c.i. pipe, etc., Bulkeley Memorial Bridge, Contr. 86. deposit $5 each; adv. ENR 4/12.

Bids Asked May 5

, Chicago—City, City Hall, constructing, ling wash-water pumps, sludge and -water transfer pumps, pipe and crane outh District Filtration Plant, vicinity 79 St. and Lake Michigan. Plans de- $25; adv. ENR 4/19.

Bids Asked May 9

., Belle River—R. Sauve, village clk., e Hall, filtration plant, incl. rein.-con. water storage tank, electric and gaso- driven pumps, clarifier mechanism, floc- tor mechanism, traveling screen, Palmer tors and filter collection sys. $75,000. Reid, 7 Edmond Ave., Toronto, engr. 9—ENR 3/15.

BIDDERS

lif., Sacramento—U. S. Eng., 1209 8 Sacramento, Zone 8, Mar. 30, modifica- water sys., Sacramento Signal Depot, 1068, from E. T. Haas Co., Merchants ange Bldg., San Francisco, **$29,949.**

ass., Camp Edwards—U. S. Eng., 31 St. s Ave., Boston, Apr. 6, water supply Contr. 19-023-45-Neg-112, from C. J. ey Co., Inc., 24 Dane St., Somerville, 41.

., Salem—City, m.g. water reservoir, from lo Constr. Co., 1200 Home Ave., Akron, 53. CD 8/30—ENR 9/7.

., Aliquippa—Woodlawn Water Co., E. rimshaw, asst. supt., 276 Sheffield Ave., 0 gal. elevated steel tank, 1,900 ft. 16 ain pipe, to Chicago Bridge & Iron Co., rospect Ave., West Cleveland 15, O. Est. 000. CD 3/12—ENR 3/15.

TRACTS AWARDED

io., Canon City—Four Mile Dist. of Canon Canon City, water imprvs., to Orman str. Co., Box 503, Pueblo, **$26,000.**

ind., Crane—Yards & Docks, Navy 18 St. and Constitution Ave. N.W., sh. 25, D. C., increase water storage and capacity, Naval Ammunition Depot, 10888, to Birmingham Constr. Co., 208 na Bldg., Birmingham, Mich., **$246,450.** 3/21.

ass., Stoneham—Town, Supt. P. Wks., eham, piping various sections Sweet- r Brook. Owner builds, **$26,200.** CD 3/23 NR 3/29.

Location of ENR Correspondents

Symbols and Abbreviations Include:

†	Federal Government
★	Project of $500,000 or over
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Name in order of Listing)

Water Supply, Sewers, Waste Disposal, Bridges, Streets & Roads, Earthwork, Waterways, Latin America, Public Buildings, Commercial Buildings, Industrial Buildings, Unclassified

Stages Reported

PROPOSED: (except Streets & Roads); BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR);

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

†O., Cambridge—U. S. Eng., 925 New Federal Bldg., Pittsburgh, Pa., water and sewer lines, roads and walks, for WAC and Em Housing, Fletcher General Hospital, to R. J. Platten, Scranton and W. 25 Sts., Cleveland, **$27,893.**

†O., Cleveland—U. S. Eng., 925 New Federal Bldg., Pittsburgh, Pa., water and sewer lines, roads and walks for WAC & EM Housing, Crile General Hospital, Contr. W-36-058-eng-1194, to R. J. Platten, Scranton and W. 25 Sts., Cleveland, **$26,468.**

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Calif., Fallbrook—Fallbrook Public Utility Dist., Main St., installing sanitary sewerage sys. $125,000. Will apply for FWA funds.

Calif., Los Angeles—Los Angeles Co., Hall of Records, vitr. clay sanitary sewer in Cecilia and other streets, Bell Gardens Dist., C. I. 1116. $31,500. A. Jones, Hall of Records, engr.

†Calif., San Diego—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., incinerator, Marine Corps Base. $80,000.

Conn., Fairfield—Town Clerk, Town Hall, incinerator and town garage, $300,000. Keis & Holroyd, 257 Bway., Troy, N. Y., engrs. CD 11/9/43—ENR 11/11/43.

Ind., Columbia City—Bd. P. Wks., F. Dillman, secy., sewage treatment plant, and interceptor sewers. $150,000. Phelps & Peck, Brinckmann Bldg., Michigan City, consult. engrs.

Mo., Gardenville (St. Louis 23, P.O.)—Gardenville Sanitary and Roof Water Sewer Dist., L. J. Munter, pres., 4618 Oldenburg St., defeated $35,000 bonds constructing, completing sys. of sanitary and roof water sewers in varying sizes in district. R. Horton, 152 S. Laclede Station Rd., Webster Groves, St. Louis, Zone 19, engr. CD 3/29.

Mo., Lemay (St. Louis, 23, P.O.)—Belle Villa Sewer Dist., Lemay, St. Louis, Zone 23, voted $24,000 bonds storm water and sanitary sewers. $26,000. E. A. Fulton, 3 S. Meramec Ave., Clayton, St. Louis, Zone 5, engr.

†N. C., Camp Lejeune (New River br. New Bern)—Yards & Docks, Navy Dpt., 18 St. & Constitution Ave. N.W., Wash. 25, D. C., incinerator, Naval Hospital, $35,000.

Ore., Sweet Home—Town, Town Hall, sewerage sys., disposal plant, $225,000. Applying for FWA funds. Stevens & Koon, Spalding Bldg., Portland, engrs. CD 8/25—ENR 8/31.

Pa., Phila.—City, J. Neson, dir. Dpt. P. Wks., City Hall Annex, sewer 30 St., Columbia Ave. $25,000. T. Buckley, city engr.

†Tex., Fort Worth—City, S. H. Bothwell, mgr., making plans sewer imprvs., Tex. 41-690. $417,000. **FWA.** Freese & Nichols, Capps Bldg., engrs.

Wash., Tacoma—City, A. R. Bergersen, Works Comr., City Hall, exten. Division Ave. trunk sewer to deep water. $25,000. B. Bantz, City Hall, city engr.

BIDS ASKED

Bids Asked April 17

†Virginia—Div. Eng. Federal Works Agency, Lemon Bldg., 1729 New York Ave. N.W., Wash. 25, D. C., Hampton trunk sewer exten., Va. 44-408-I, Hampton and Elizabeth City Co. Greeley & Hansen, Adams Bldg., Norfolk, consult. engrs.

Bids Asked April 20

Kan., Scott City—City, at office of C. J. Van Antwerp, city clk., sewage disposal works, incl. removing structures, building complete new plant, pump. sta., imhoff tank, trickling filter, sludge beds, irrigation pump, etc. Plans deposit $10; 2,040 lin. ft. 12 in. sanitary sewer extens., trenching up to 12 ft. deep, 5 manholes. Plans deposit $5. Wilson & Co., 215 W. Ash St., Salina, engrs.

Bids Asked April 26

Ill., Chicago—J. M. Whalen, 910 S. Michigan Ave., furnishing, del. spare parts, appurtenances for miscellaneous equipment, Southwest Sewage Treatment Works.

Bids Asked May 4

O., Xenia—City, sewage treatment plant. $105,000.

LOW BIDDERS

Calif., Los Angeles—City, City Hall, Mar. 28, 5,481 vitr. clay sanitary sewer in Davana Rd. and Murietta Ave., from B. Bosnyak, 3014 Worthen Ave., **$34,628.** Est. $29,665. CD 3/8—ENR 3/15.

Pa., Pittsburgh—Commonwealth of Pennsylvania, C. M. Woolworth, secy. Dpt. Property & Supplies. Apr. 4, reconstructing 500 ft. 25 in. sewer, Western State Penitentiary, from John F. Casey Co., P. O. Box 1888, **$45,360.** CD 3/27—ENR 3/29.

Tex., Dallas—City, City Hall, sewage pump. unit, from J. G. Bartholomew, Construction Bldg., **$29,500.** CD 1/19—ENR 1/25.

CONTRACTS AWARDED

D. C., Wash.—District Comrs., District Bldg., storm water sewer, Benning Hts., vicinity Falls Terrace and E Sts. S.E., to Robert Lombardi, Real Estate Trust Bldg., Phila., Pa., **$25,894.**

BRIDGES

PROPOSED WORK

Iowa—State Hy. Comn., Ames, rejected bids Apr. 3, maintenance culvert repair M-1293, Calhoun Co.; M-1292, Polk Co.; M-4297, Pottawattamie Co. CD 3/27—ENR 3/29.

North Carolina—State Hy. & P. Wks. Comn., Raleigh, bids soon causeway, on U. S. Rt. 64, Project 1905, Tyrrell Co. To exceed $25,000. T. B. Gunter, c/o owner, bridge engr.

BRIDGES (Proposed Work, Cont'd)

Pa., West Nantmeal Twp.—Reading Co., E. Y. Allen, ch. engr., Reading Terminal, Phil., Zone 1, single span railroad bridge, single closed floor plate girder span and providing minimum clearance of 14 ft. above highway surface. $37,524.

Ont., Woolwich—Woolwich Twp., Woolwich, bridge, $30,000. E. P. Bowman, Guleph, engr.

BIDS ASKED

Bids Asked April 18

Louisiana—State Hy. Dpt., Baton Rouge, repairing East Main St. Bridge on State Route 69, S.P. 65-03-10, in Houma Terrebonne Parish. Plans deposit $1; 400 cu. yd. washed gravel furnished f.o.b. at Rayne, for use on certain road in Ward 1, S.P. 703-01-11, Acadia Parish.

Bids Asked April 20

Illinois—State Div. Hys., Springfield, fabrication and del. f.o.b. Kankakee, of structural steel for 60 ft. span plate girder superstructure, for I. C. R. R. overhead on S.B.I. Route 17, (Court St.) Kankakee, Sect. IV-F, F.A.G.M. Proj. 22A (1), S.B.I. Route 17, Dist. 3; rein.-con. substructure, paved concrete approaches, erecting 1 span, 60 ft. plate girder superstructure for I. C. R. R. overhead on S.B.I. Route 17 (Court St.), Kankakee Sect. IV-B, F.A.G.M. Proj. 22A (1), S.B.I. Route 17, Dist. 3, both Kankakee Co.; repairing bridge over Fox River in Geneva, S.B.I. Route 6 (State St.), Sect. LB-Z, S.B.I. Route 6, Dist. 1, Kane Co., foregoing over $25,000 each. Plans deposit $10 each. W. W. Polk, Springfield, ch. engr.

Ont., Tilbury—C. G. R. Armstrong, engr., 605-06 Bartlet Bldg., Windsor, 67 ft. clear span skew bridge, steel superstructure on concrete abutments over Nos. 2 and 3 Government Drain on road between Concessions 3 and 4 in Tilbury East Twp., for Tilbury East Twp. About $35,000.

Bids Asked April 26

Wash., Longview—W. Vandercook, engr. and mgr. Longview Bridge Co., Longview, replacing 1,400 ft. wooden structure approach to Longview Bridge with earth and crushed rock culvert fill. Over $25,000.

Bids Asked April 27

Kentucky—State Hy. Dpt., Frankfort, 5 concrete approach spans, 1 abutment, 1 pier, bridge floor sidewalk and hand rail fir steel structure of Kentucky River Bridge at Clay's Ferry, SN-AFA 124 A(2), SP 34-104, Fayette and Madison Counties.

Bids Asked May 1

Mo., St. Louis—City, c/o M. M. Kinsey, pres. Bd. P. Serv., 304 City Hall, 12th and Market Sts., Zone 1, general reconditioning, repairs to Chouteau Ave. viaduct exten. from Vandeventer Ave. to 39 St. $42,500. Bridges & Bldgs. Section Bd. P. Serv., W. Crecelius, ch. engr., 301 City Hall, Zone 1.

Bids Asked After May 15

★†**Md., Chesapeake City**—U. S. Eng., Penn Mutual Bldg., 6 and Walnut Sts., Phila., Pa., rebuilding highway bridge across Chesapeake and Delaware Canal, $2,000,000. Parson, Klapp, Brinkerhoff & Douglas, 142 Maiden Lane, New York 7, N. Y., engrs. CD 3/20 —ENR 3/22.

CONTRACTS AWARDED

Florida—State Rd. Dpt., Tallahassee, repairing fender sys. Hathaway and Dupont Bridges, Bay Co., to Royce Kershaw Co., Bell Bldg., Montgomery, Ala., $28,663. Bids 3/29, awarded 4/5. CD 3/20—ENR 3/22.

STREETS AND ROADS

BIDS ASKED

Bids Asked April 16

Conn., Rocky Hill—State Comptroller, State Office Bldg., Hartford, general grading and constructing roadway, Veterans Hospital.

Mass., Dorchester (P. O. Boston)—City of Boston, P. Wks. Dpt., City Hall Annex, Boston, bituminous concrete paving Clarkson and neighboring streets. To exceed $25,000.

New Jersey—State Hy. Dpt., Trenton, constructing 0.298 mi. Maxwell Ave., from Tinton Ave. to Wampun Brook, Access Road to Camp Woods, Federal Project DA-WR 20, Borough of Eatontown, Monmouth Co.

Bids Asked April 17

Iowa—State Hy. Comn., Ames, maintenance resurfacing 1 mi. Iowa 119 from Dorchester to Iowa 12; 18.8 mi. Iowa 13 from Waukon to Minnesota state line, Proj. M-2243, Alamakee Co.; 10.2 mi. Iowa 38 from Iowa 1 to U. S. 6, M-6210, Cedar Co.; 10.2 mi. Iowa 90 from U. S. 6 to U. S. 69, 3.8 mi. Iowa 232 from Earlham to Iowa 90, 1 mi. Iowa 293 from Van Meter to Iowa 90; 8.3 mi. Iowa 169 from Madison Co. line to Adel, 3 mi. Iowa 292 from Linden to Iowa 64, 3.1 mi. Iowa 141 from Guthrie Co., to end of pavement, 0.4 mi. Iowa 335 from Dawson to Iowa 141, 17.5 mi. Iowa 141 from Woodward to Camp Dodge, all foregoing M-1321, Dallas and Polk Counties; 7 mi. Iowa 10 from paving west of Colesburg to paving east of Edgewood, 9.9 mi. Iowa 38 from Iowa 10 to U. S. 20, 7.3 mi. Iowa 38 from Delhi to Hopkinton, 1.6 mi. Iowa 116 from U. S. Hatchery to U. S. 20, foregoing M-6208, Delaware Co.; 7.2 mi. Iowa 14 from Iowa 57 to U. S. 20, M-1306, Grundy Co.; 12.1 mi. U. S. 59 from Ida Grove to Crawford Co. line, M-3342, Ida Co.; 17.8 mi. Iowa 62 from Iowa 64 to paving west of Bellevue, 19.7 mi. U. S. 67 from Iowa 64 to Bellevue, 1 mi. Iowa 113 from Sprague ville to Iowa 64, foregoing M-6209, Jackson Co.; 16 mi. Iowa 33 from Monticello to Iowa 64, 17.5 mi. Iowa 136 from Wyoming to Cascade, foregoing M-6211, Jones Co.; 5.8 mi. Iowa 333 from College Springs to U. S. 71, cover aggregate material on U. S. 59 from Missouri State line to Iowa 184, M-4325, Page Co.; 12.6 mi. Iowa 49 from Lenox to Iowa 319, 6.8 mi. Iowa 319 from Conway to Iowa 148, cover aggregate material on Iowa 148 from Missouri State line to Gravity, foregoing M-4326, Taylor Co., all foregoing under $25,000 each; maintenance culvert repair and grading 6 culvert repair jobs on U. S. 6, Iowa 25, Iowa 251, Iowa 169, grading on Iowa 25, M-4291, Guthrie, Madison and Union Counties, over $25,000; 0.6 mi. Iowa 35, from Iowa 141 North, M-3347, Monona Co.; maintenance ditch excav. on U. S. 30 from Harrison Co. to Vail overhead, on Iowa 141 from Monona Co. to Denison, on Iowa 4, from Denison to end of pavement, foregoing M-3308, Crawford Co.; maintenance pavement reconstruction on U. S. 6, involving 1,414 sq. yd., M-1322, Jasper Co.; on U. S. 30, involving 1,219 sq. yd. M-1323, Marshall Co.; on U. S. 30 and Iowa 212, 2,719 sq. yd. M-1301, Tama Co., foregoing under $25,000 each. F. R. White, Ames, ch. engr.

Mass., Dorchester, Roxbury and Hyde Park (Boston P. O.)—City of Boston, P. Wks. Dpt., City Hall Annex, Boston, artificial stone sidewalks along Cummings Hy.

West Virginia—State Rd. Comn., Charleston, surface treatment 3.3 mi. Hancock Co. line to Colliers Secondary Rd. (Secondary Route 1-Harmon Creek), State Secondary Project 5278, Brooke Co.; 11.19 mi. Clifftop-Layland Rd., (State Route 41), S.P. 2278, 2.2 mi. Dothan-Mossy Secondary Road (Secondary Route 15), State Secondary Project FAS 11-B, both Fayette Co.; 7.9 mi. Boone Co. line via Chapmanville up Crawley Creek Secondary Road (Secondary Route 7, 7/1, 6 and 3), State Secondary Projects 5940 and 5792, Logan Co.; 7.35 mi. Cameron Ridge Secondary Road (Secondary Route 23), State Secondary Project 5652, Marshall Co.; 10.2 mi. Iaeger to Bradshaw Rd., (State Route 80), S.P. 3776, McDowell Co.; 6.04 mi. Princeton-Athens Rd., (State Route 20), S.P. 2039, Mercer Co.; 12.92 mi. Naugatuck to Williamson Rd. (U.S. Route 52), S.P. 3297, 3303-A-B-C, 299-A-G-D; 10 mi. Belo to Logan Co. line Secondary Rd., (Secondary Route 7 Trace Fork), State Secondary Project 5249, both Mingo Co.; 5.2 mi. Stone Church Secondary Rd. end of contract to Marshall Co. line (Secondary Route 23), State Secondary Project 5115, Ohio Co.; 6.75 mi. U.S. Route 50 via Newburg toward Reedsville Rd. (State Route 92), S. P. 236-A, C & D, Preston Co.; 16.09 mi. Arnett-Harper Rd., (State Route 3), S.P. 3354-C, 2212, 101 and 2211, Raleigh Co.; 8.05 mi. Elkins to Keren Rd. (U.S. 219), S.P. 3211-A & B, Randolph Co.; 10 mi. Blueville to Monongalia Co. line Rd., (U.S. Route 119), S.P. 289-B, 3479-A and 3540, Taylor Co.; 18.5 mi. Coleman to Missouri Branch Rd. (U.S. Route 52), S.P. 3061, 3202 and 3190 (Pt.), Wayne Co.; 7.49 mi. Barkers Creek-Mercer Co. line Rd., (State Route 10), S.P. 3245, Wyoming Co.; penetration macadam surfacing 3.7 mi. State Route 2 to Tyler Co. line Rd. (Secondary Route 28), State Secondary Project 5524, Wetzel Co.; road mix surfacing 5.5 mi. State Route 28 to Cass-Secondary Rd. (Secondary Route 7), State Secondary Project 5052, Pocahontas Co.

Wisconsin—State Hy. Comn., Madison, gravel surfacing 5.9 mi. A.F.E. No. 13-37 Stoughton-Oregon Rd., State Trunk Hy. 106, crushed stone surfacing 3.8 mi. A.F.E. 13-38, Blanchardville-Daleyville Rd., State Trunk Hy. 78, both Dane Co.; 9.8 mi. A.F.E. 62-24, Yuba-Hillsboro Rd., State Trunk Hy. 80, Vernon Co.; 13 mi. A.F.E. 22-28, Lancaster-Platteville Rd., State Trunk Hy. 81, Grant Co.; gravel surfacing for shoulders 16.8 mi. A.F.E. 13-41, Middleton-Sauk City Rd., U.S. Hy. 12, Dane Co.; 3.3 mi. A.F.E. 64-20 Elkhorn-Delavan Rd., State Trunk Hy. 15, 3.6 mi. A.F.E. 64-21, Delavan-Darien Rd., State Trunk Hy. 15, 3.8 mi. A.F.E. 64-22, Darien-Rock Co. line Rd., State Trunk Hy. 15; 5 mi. A.F.E. 64-23, Whitewater-Darien Rd., State Trunk Hy. 89, 2.1 mi. A.F.E. 64-24, Whitewater-Rock Co. line Rd., State Trunk Hy. 59, all foregoing Walworth Co.; gravel or crushed stone surfacing 14 mi. A.F.E. 56-33, Reedsburg-Baraboo Rd., State Trunk Hy. 136, Sauk Co.; 9 mi. A.F.A. 23-19, Brooklyn-Belleville Rd., State Trunk Hy. 92, Green Co.; 8 mi. A.F.E. 44-24 and 44-25, Black Creek-Bonduel Rd., State Trunk Hy. 47, Outagamie Co.; 11.5 mi. A.F.E. 58-22, Bonduel-Black Creek Rd., State Trunk Hy. 47, Shawano Co.; 1.2 mi. A.F.E. 70-21, Neenah-Winchester Rd., State Trunk Hy. 150, 6 mi. A.F.E. 70-24, Oshkosh-Outagamie Co. line Rd., U.S. Hy. 45, Winnebago Co.; 6 mi. A.F.E. 29-23, Wisconsin Dells-Monroe Co. line Rd., U.S. Hy. 12, 11.5 mi. A.F.E. 29-24 New Lisbon-Necedah Rd., State Trunk Hy. 80, both Juneau Co.; 11.9 mi. A.F.E. 27-24 and 61-24, State Trunk Hy. 95, Blair-Hixton Rd., Jackson and Trempealeau Counties; 4.5 mi. A.F.E. 41-25 Camp Douglas-Millston Rd. U.S. Hy. 12, 0.7 mi. A.F.E. 41-26 Tomah-Sparta Rd., U.S. Hy. 16, 8.3 mi. A.F.E. 41-24 a[illegible] Rd., State Trunk H[illegible] mi. A.F.E. 61-22, O[illegible] 10, Trempealeau Co[illegible] 56-34, Juneau Co. h[illegible] 159 Rd., U.S. Hy. 12[illegible] State Trunk Hy. 159[illegible] 12, producing and [illegible] facing 0.8 mi. State [illegible] A.F.E. 56-24, North[illegible] Lake State Park, s[illegible] Sauk Rd., Devils La[illegible] tion, Sauk Co.; appli[illegible] 186,000 gal. Buffalo C[illegible] Co.; 52,000 gal. Wa[illegible] Racine Co.; 10,000 g[illegible]

Bids Asked April 18

Mass., Hyde Park (P. O. Boston)—[illegible] Boston, P. Wks., Dpt., City Hall A[illegible] Boston, sheet asphalt [illegible] Over $25,000.

Ia., Nevada—Rd. Supervs. Story Co., tenance surfacing, in[illegible] gravel, crush, screen[illegible] yard miles of haul. Over $25,000. S. Sewalt, Nevada, co. engr.

Bids Asked April 20

Illinois—Div. Hys., Springfield, bitum resurfacing 3.12 mi. Sect. (B and C) S.B.I. Route 11, Dist. 8, Madison Co. mi. Sect. 9 Y-RS, S.B.I. Route 34 Du Page Co.; 5.92 mi. Sect. 4 Q-RS and F.A. Route 155, Dist. 8, Jersey Co.; over $25,000 each; 18.58 mi. Sect. 12, 16, 15 and 14) RS, S.B.I. Route 17, Livingston, Kankakee and Grundy Co over $50,000; bituminous binder and bituminous resurfacing 5.02 mi. Sect. 11 Y-S.B.I. Route 18, Dist. 1, Du Page and [illegible] Counties; bituminous resurfacing and crete widening 7.26 mi. Sects. (18, 19 9W) S.B.I. Route 8, Dist. 3, Iroquois, 5,16 mi. Sect. W-RS, V-RS and X-RS, Route 71, Dist. 1, Kane Co.; 5.77 mi. 19 RS-1, 126 RS and 126 X-RS, S.B.I. 22 and 68, Dist. 1, Lake Co.; 10.36 Sect. 50 RS and 51 RS, S.B.I. Route Dist. 5, Macon Co.; 4.76 mi. Sect. and W-RS-1, S.B.I. Routes 4 and 6, Sangamon Co.; bituminous binder bituminous resurfacing 6.34 mi. Sect. RS-1, 534 H-RS-1 and 552 X-RS-1, Routes 18, 53 and 65, Dist. 1, Du Page ditch cleaning and miscellaneous work mi. Sects. (10, 11, I, 12 and 14) 1, Route 16, Dist. 5, Shelby and Cl Counties, foregoing over $25,000 each. deposit $10 each. W. W. Polk, Spring ch. engr.

Ill., Pontiac—Clerk Livingston Co. Bldg., furnishing, spreading 16,293 gravel or crushed stone, 24,484 gal. asphalt, 10,000 gal. SC-3 asphalt and tons seal aggregate. Over $25,000. Bergstrom, County Bldg., acting co hys.

Minnesota—State Hy. Dpt., St. Paul, material for Maintenance Dists. 4, 7 and road mixed bituminous wearing approx. 27 mi. Dist. 10, involving 5,000 yd. mineral aggregate, applying about 000 gal. bituminous material; 46 mi. Dist 18,050 cu. yd. mineral aggregate, 1 gal. bituminous material; 33 mi. Dist 16,350 cu. yd. mineral aggregate, 1 gal. bituminous material. $75,000. Kipp, c/o owner, ch. engr.

Bids Asked April 24

Pennsylvania—J. U. Shroyer, secy. S Hy. Dpt., Harrisburg, bituminous surfacing existing pavement 5.5 mi. U. S. Rt. 22 between Santiago and Ohio State Hanover and Robinson Twps.; Washington Co.; 0.98 mi. Traffic Route 154 and 2 Milton Boro, Northumberland Co.; 2.3 Traffic Route 718, Sharon and Farrell, cer Co.; 1.6 mi. U. S. Route 422, Routes 18, 168 and 224 from city of Castle to Ohio State line, Mahoning Lawrence Co.; widening pavement plain concrete base and crushed aggre base and bituminous surfacing existing ment and new base 3.89 mi. Traffic Rou Elk Twp., Shippenville Boro, between penville and Millerstown, Elk Twp., Cla Co.; bituminous surfacing 1.56 mi. pave incl. repairing existing bridge abutme widening pavement with crushed aggre base course U. S. Route 202, Shalfort New Britain Twp., between Chalfont Montgomery-Bucks Co. line, Bucks Co facing pavement and new plain concrete and crushed aggregate base replace with bituminous surfacing 0.79 mi. Route 40031, Newport Twp., between and Mocanaqua, Luzerne Co.; 1.26 mi facing bituminous concrete floor of Wrightsville Bridge with bituminous facing U. S. Route 30 (Lincoln Hy.), bia and Wrightsville Boro, York and caster Counties. Plans deposit $2.50 each.

Bids Asked April 25

California—State Div. Hys., Sacramento road mix surfacing repairs 3.8 mi. portl highway between Yolo Co. line and Gr Colusa Co.; plant mix surfacing on exist roadbed and on new crusher run b borders 3.2 mi. between Auburn and River, Placer Co. G. T. McCoy, state engr.

Colorado—State Hy. Dpt., Denver, constructing 4.15 mi. S.H. 115, incl. one 40 I-beam, one 40 ft. I-beam and one 6 10x8 ft. concrete box type culvert. 365H(1), El Paso and Tremont Coun $200,000. Tentative date.

REETS, etc., Bids Asked, Cont'd.)

Bids Asked April 26

California—State Div. Hys., State Bldg., Angeles, 3.3 mi., plant mix surfacing airs over existing pavement and applying l coat to shoulders between Latigo Can- and 1 mi. westerly of Malibu Creek, Los eles Co. G. T. McCoy, P. Wks. Bldg., ramento, state hy. engr.

Bids Asked April 27

Kentucky—State Dpt. Hys., Frankfort, k asphalt seal 8.581 mi. Paris-Carlisle d from north east corporate limit of is to Nicholas Co. line, SP 9-59, U. S. 68, urbon Co.; 22.685 mi. SP 29-67, SP 27-106 d SP 27-86, Ky. 90 and 35, Burkesville- ney-Tennessee State Line Rd. from near kesville Ferry to Tennessee State Line at ic, Cumberland and Clinton Counties; raising and concrete pavement repair 11 mi. between Ashland and Greenup Line, Ashland-Greenup Rd., SP 10-5 U.S. Boyd Co., concrete pavement repair 3 mi. sville-Brooksville Rd. from west corpor- limit of Maysville to Moranburg, SP resurfacing 1.38 mi. SP 97-42; 4.339 mi. 97-162, SP 97-182; 18.7 mi. SP 97-2; 354 mi. SP 97-22, SP 60-98 all foregoing oup 17 (1945), in Knott and Perry Coun- 1.135 mi. SP 18-63; 7.898 mi. SP 18-83; 48 mi. SP 18-143; 9.889 mi. SP 18-123, foregoing Group 18 (1945), Calloway Co.; 354 mi. SP 90-145, SP 78-182, 4.335 mi. 8-225; 3.152 mi. SP 90-345; 4.85 mi. SP 265; 3.663 mi. SP 9-65, all foregoing oup 19 (1945), Marion and Nelson Coun- s; 0.049 mi. SP 37-305; 13.191 mi. SP 37-5; 227 mi. SP 37-185, all foregoing, Group 22 945), Franklin Co.; 1.53 mi. SP 59-155; 662 mi. SP 59-15; 2.072 mi. SP 59-35; 0.043 SP 59-225; 0.175 mi. SP 19-11; SP 19-291; 127 mi. SP 19-331; SP 19-311; 0.101 mi. P 19-271; 1.36 mi. SP 19-31; 0.045 mi. SP 19- 11; 11.298 mi. SP 19-131; 0.676 mi. SP 9-135, all foregoing Group 24 (1945), Camp- ell and Kenton Counties; 4.438 mi. SP 33-43; 81 mi. SP 33-83, SP 76-31, both Group 25 945), Estill and Madison Counties; 10.289 SP 95-16, SP 65-49; 0.226 mi. SP 95-36; 189 mi. SP 96-56; 12.998 mi. SP 65-69; 649 mi. SP 65-9; 4.264 mi. SP 65-29, all foregoing Group 26, Lee and Owsley Coun- es; 3.807 mi. SP 10;125; 0.271 mi. SP 45-31; 469 mi. SP 45-11; 5.08 mi. SP 45-171; 0.2 SP 45-211; 0.573 mi. SP 68-114; 6.589 mi. P 10-85, all foregoing Group 27 (1945), oyd, Greenup and Lewis Counties.

Tennessee—State Hy. Dpt., Nashville, rading, drainage, surfacing 5.498 mi. sec- on State Hy. 61 beginning at Clinton ngineer works at Oak Ridge and exten. to tate Hy. 9 in Clinton, DA-WI-31-A (1), nderson Co.; imprv. 4 mi. Coal Mine Roads xten. from Sterling to Kentucky State line nd from Fork Ridge to Kentucky State ne, DA-RM 32-A (1), Parts I & II, Clai- orne Co.; grading, drainage for 2 addnl. affic lanes 6.772 mi. State Hy. 9, beginning t Knox Co. line and exten. to point approx. .2 mi. south of Clinch River Bridge, N-FAP 82-A(3), Anderson Co. CD 4/3—ENR 4/5.

Bids Asked

Conn., New Britain—City, P. Wks. Dpt., ity Hall, (selected list bidders) patching arious streets, relaying flag sidewalks for cal year 45-46, resurfacing Arch St. Over 25,000. G. Molleur, City Hall, engr.

Iowa—State Hy. Comn., Ames, received o bids Apr. 3, maintenance resurfacing 6.6 mi. M-3345, Buena-Vista-Cherokee and ac Counties; 10 mi. M-2241, Butler Co.; 5.6 mi. M-1317, Carroll Co.; 44.4 mi. M- 206, Dubuque and Jackson Counties; re- ected bids Apr. 3, 55.2 mi. M-1312, Powe- hiek Co.; 34.4 mi. M-1313, Webster and Winnebago Counties; imprv. M-1314, Warren and Lucas Counties. CD 3/27—ENR 3/29.

Ohio—State Hy. Dpt., Columbus, Mar. 27 eceived no bids imprv. 0.408 mi. Sect. Logan of SH 360, U.S. 33, Hocking Co. $12,350. CD 3/13—ENR 3/22.

Virginia—State Dpt. Hys., Richmond, re- ected bids Mar. 27, imprv. 2.2 mi. Louisa Co. CD 3/30—ENR 4/5, under LB.

LOW BIDDERS

Conn., New Haven—City, Hall of Records, Mar. 28, various street repairs, from Pave- ments, Inc., 110 Whitney Ave., colprovia, $69,160***from C. W. Blakeslee & Sons, Inc., 58 Waverly St., sheet asphalt, $69,145*** from D. V. Frione & Co., 87 Foxon St., concrete, $51,465. CD 3/22.

Ill., Belleville—St. Clair Co., County Bldg., Belleville, Mar. 26, maintenance, furnishing, applying 143,780 gal. MC-1, MC-2 and/or MC-4 asphalt and 257,930 gal. of E-2, E-3 and/or E-4 road oil, from Bituminous Fuel & Oil Co., First National Bank Bldg., East St. Louis, $36,866. B. C. McCurdy, co. supt. hys.

★**Kentucky**—Dpt. Hys., Frankfort, Apr. 6, imprv. 11.38 mi. Trigg Co., from R. B. Tyler Co., Inc., 1446 Levering St., Louisville, $30,729***43.294 mi. Casey and Marion Coun- ties, from Cumberland Constr. Co., Burkes- ville, $141,337***31.453 mi. Nelson, Spencer and Washington Counties and 30.177 mi. Mason Co., from Southern Ohio Quarries Co., 150 E. Broad St., Columbus, O., $91,024 and $108,849 respectively***31.011 mi. Car- roll, Henry, Owen and Grant Counties, from H. C. Adams, Lexington, $92,132***35.871 mi. Garrard and Lincoln Counties, from Carey Constr. Co., 613 Citizens Bank Bldg., Lex- ington, $143,764***19.235 mi. Campbell and Pendleton Counties, from Eaton Oil Works, Covington, $45,412***47.552 mi. Harlan Co., from Kentucky-Virginia Stone Co., Middles- boro, $161,998***7.906 mi. Harlan Co., from H. K. Williams, 1327 S. 7th St., Louisville, $55,236. CD 3/6—ENR 3/8.

Louisiana—State Hy. Dpt., Baton Rouge, Apr. 4, imprv. 0.92 mi. East Baton Rouge Parish, from W. R. Aldrich & Co., Kalwrah University Gardens, Baton Rouge, $30,775; 1.741 mi. Tangipahoa and St. Tammany Parishes, from R. M. Lilly, Fidelity Bank Bldg., Baton Rouge, $37,182. CD 3/20—ENR 3/22.

Mass., Boston—City, City Hall Annex, Apr. 4, sheet asphalt paving Centre Ave., Ward 16, Centre St., Wards 16 and 17, East Cottage St., Wards 7 and 13, and Savin Hill Ave., Wards 13 and 15, from S. J. Tomasello Corp., 25 Huntington Ave., $46,747. CD 3/28.

Mass., Boston—City, Park Dpt., 33 Beacon St., Apr. 5, reconstructing Commonwealth Ave., North Drive between Cottage Farm Bridge and Brighton Ave., and resurfacing various streets, Area 3, from John McCourt Co., 910 Huntington Ave., $68,465 and $76,200 respectively; resurfacing various streets, Area 1 and 2, from Central Constr. Co., 228 Southampton St., Roxbury, $60,120 and $56,- 820 respectively. CD 3/28.

New York—H. A. Cohen, dir. Bureau Contrs. & Accounts, State Office Bldg., Al- bany, Apr. 4, imprv. 0.9 mi. Nassau Co., from J. P. Murns, Knickerbocker Rd., Cresskill, N. J., $108,977. CD 3/13—ENR 3/15.

N. Y., White Plains—Dpt. P. Wks., County Office Bldg., Apr. 6, highway resurfacing. Contr. 449, from Standard Bithulithic Co., 50 Church St., New York, Zone 7, $66,450. CD 4/2.

Wash., Prosser—Benton Co., Courthouse, Mar. 26, surfacing 5 roads, from Babler Bros., 4617 S. E. Milwaukee St., Portland, Ore., $39,373. R. Nunn, Prosser, co. engr.

West Virginia—State Road Comn., Charles- ton, Apr. 3, imprv. 6.7 mi. Boone Co., and 5.45 mi. Braxton Co., from J. M. Francesa & Co., Fayetteville, $28,060 and $26,515 respec- tively***9.52 mi. Nicholas Co., from Abbot Constr. Co., Capitol and Piedmont Rds., $39,107***5.3 mi. Kanawah Co., from Tony Pacifico, Coal Branch Rd., Charleston, $30,893***19.8 mi. Lincoln Co., from Harry Hatfield Co., Barboursville, $60,495***8.8 mi. Logan Co., and 187 mi. McDowell and Wyoming Counties, from C. N. Haynes, South Charleston, 34,525 and $45,934 respectively 11.37 mi. McDowell Co., from Mirabile Constr. Co., Welch, $43,435***16.4 mi. Mineral and Hampshire Counties, from Potomac Constr. Cp., Martinsburg, $55,851. Rejected bids Apr. 3, imprv. 8.34 mi. Pendleton Co. CD 3/21—ENR 3/29.

CONTRACTS AWARDED

Calif., Los Angeles—City, City Hall, grad- ing, concrete and asphaltic concrete paving in San Fernando Rd. Branford to Truesdale Aves., to Griffith Co., 1060 S. Bway., $26,948. Est. $25,000. Bids 3/28. CD 3/15.

Calif., San Lorenzo—Greenwood Corp., 859 San Mateo Dr., street construction, to Union Paving Co., 212 Babcock Bldg., San Fran- cisco. Est. $25,000-$30,000. E. H. Smith, City Hall, Menlo Park, engr. CD 3/30—ENR 4/5.

D. C., Wash.—District Comrs. District Bldg., imprv. alleys, sidewalks, curbs and gutters, vicinity 45 St. and Eads St. N.E., to Donaldson Paving Co., 20 Potomac Ave. S.W. $25,899.

★**Florida**—State Rd. Dpt., Tallahassee, to John Monaghan Inc., Pelham, Ga., imprv. 2.033 mi. Clay Co. $60,678***to Nolan- Dickerson Constr. Co., Lakeland, 8.539 mi. Polk Co., $34,847***to W. H. Armston Co., Inc., Tampa, 8.017 mi. Polk Co. $63,016*** to Coggin & Deermont, Chipley, 20.817 mi. Alachua and Gilchrist Counties $25,314; 6.648 mi. Washington Co., 2.377 mi. Jackson Co., 2.5 mi. Jackson Co. 2.419 mi. Bay Co., 2.581 mi. Calhoun Co., 0.746 mi. Jackson Co., 0.435 mi. Jackson Co., 5.25 mi. Jackson Co. $95,038***to R. B. Tyler Co., 1446 Lever- ing St., Louisville, Ky., 4.871 mi. Lee Co., 16.53 mi. Glades Co., 3.7 mi. Hendry Co. $118,332; 1.281 mi. Palm Beach Co., 5.313 mi. Martin Co. $34,455***to Belcher Oil Co., 1221 Biscayne Blvd., Miami, 4.115 mi. Mon- roe Co. $88,577***to Brinson Constr. Co., 1st Natl. Bank Bldg., Tampa, 1.565 mi. Palm Beach Co. $38,602***to Langston Constr. Co., Orlando, 4.2 mi. Brevard Co. $34,937***to J. D. Manly Constr. Co., Leesburg, 3.98 mi. Flag- ler Co. $26,213; 12.89 mi., 0.818 mi. and 7.9 mi. Brevard Co. $89,547; 5.2 mi. Lake Co. $50,693; 5 mi. Osceola Co. and 8.477 mi. Okeechobee Co. $61,130***to L. L. Hall Constr. Co., Jacksonville, 4.035 mi. Bradford Co. $29,253***to Marion Constr. Co., Ocala, 1.924 mi. Columbia Co. $38,955***to Duval Eng. & Constr. Co., ft. E. Adams St., Jack- sonville, 1.751 mi. and 5.002 mi. Duval Co. $73,268***to J. H. Craggs Constr. Co., Ocala. 12.52 Alachua Co. $102,242***to Faulk & Coleman, Coca, 2.387 mi. Dixie Co. $25,562; 6.3 mi. Jackson Co. and 8.527 mi. Jefferson Co. $28,075; 8.467 mi. Wakulla Co. $61,982. Grand total $1,180,718. Bids 3/29, awarded 4/5. CD 3/2—ENR 3/22.

★**Ind., Crane**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., paving and grading for addnl. magazines, NOY 11088, to Green Constr. Co., Oaktown, $853,206.

†Ore., Troutdale—Reconstruction Finance Corp., Pittock Block, Portland, grading, surfacing 123-acre site on Graham Rd. for surplus property storage, to E. C. Hall Co., Route 6, Box 630, Portland, $34,889. Bids 4/3.

Tex., Houston—Reed & Yancy, 3800 Rice Bldg., asphalt paving, sanitary sewer and waterlines, Sec. 9, Sunset Terrace addn., to L. Vernon Miller, 823 1st Natl. Bank Bldg., and I. L. Peabody, 5815 Lake St., approx. $49,600. N. Moses, 3900 Rice Blvd., engr.

Washington—State Hy. Dpt., C. E. Hickey, dir., Olympia, reconstructing Point Fosdick Cradle of Tacoma Ferry System on Primary State Hy. 14, Tacoma, Pierce Co., to Hart Constr. Co., 3536 E. 11 St., Tacoma, $41,697; clearing, grading, 6 bridges, etc. on Primary State Hy. 1, Austin Pass Branch, Glacier to Mt. Baker, Pierce Co., to A. Osberg, 2606 Phinney Ave., Seattle, Zone 3, $61,613*** grading, draining, removing 2 bridges, sur- facing, 0.436 mi. Secondary State Hy. 1-A, Whatcom Co., to G. J. Norris, 1411 4 Ave. Bldg., Seattle, Zone 1, $30,731. Grand total $134,041. Bids 4/3, awarded 4/3. CD 3/20—ENR 3/22.

Ont., Kemptville—Oxford-on-Rideau Twp., c/o W. E. Latimer, Reeve, graveling roads, day labor. $30,000. A. I. Lewis, Kemptville, engr.

Ont., Wilkieport—Sombra Twp., c/o S. Carrothers, R.R. 1, road reconstruction, day labor, $36,000. Geo. A. McCubbin, Chatham, engr.

EARTHWORK, WATERWAYS

PROPOSED WORK

★**†Calif., Alameda**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., dredging turning basin and channel, Naval Air Station. $500,000.

†Calif., Oakland—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., erosion control, Naval Hos- pital, $186,000.

La., Golden Meadows—A. Danos, Golden Meadows, dredging, installing, maintaining 3 timber boatways, timber wharf, timber pile fdns., timber sheet pile backfilled bulkhead and pile clusters in Bayou Lafourche.

Neb., Omaha—Douglas Co., Omaha, mak- ing surveys Dodge-Pappio drainage project for flood protection. $65,000. E. M. Rohr- bough, 3221 Poppleton Ave., co. engr.

†Tex., Marshall Ford Dam—Bureau Recla- mation, Custom House, Denver, Colo., recon- ditioning twenty-four 102 in. steel gates, spillway repairs, road work, etc., at Marshall Ford Dam. $90,000.

★**†Va., Norfolk**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., dredging and lighting sea- plane operating area, Naval Air Station, $2,300,000.

BIDS ASKED

Bids Asked April 18

†N. Y., Fishers Island—U. S. Eng., 819 In- dustrial Trust Bldg., Providence, R. I., shore protection, No. 45/10.

Bidsd Asked April 30

†Ore., Opal City—Bureau Reclamation, Bend, earthwork, structures, Laterals M-30, M-31, M-32, M-34 and sublaterals, Deschutes Proj., near here, Spec. 1800-D. W. R. Young, ch. engr.

LOW BIDDERS

Calif., Los Angeles—Los Angeles Co., Hall of Records, Apr. 3, East Compton Creek 1 Drainage Sys., near Walnut Park, from V. Kovacevich, 5400 Imperial Hy., South Gate, $100,881. Est. $125,000. CD 3/23.

†Calif., Muroc—U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 14, Mar. 28, drainage and dust control at Muroc Flight Test Base, No. 260, from McClannahan, Mulleneaux & Roberts, P. O. Box 217, Arlington, $26,650.

†Idaho, Boise—U. S. Eng., Pittock Block, Portland, Ore., Mar. 31, repairing, recon- structing levees, revetments along Boise River, 3 mi. northwest of here, Neg. 1038, from Smith & Wildman, Twin Falls, $24,699.

†Idaho, Coeur d'Alene—Bureau Reclama- tion, Coeur d'Alene, Mar. 30, earthwork, con- crete lining, pipelines, structures, canal and lateral sys., Post Falls Unit, Rathdrum Prairie Project, Spec. 1094, from Northwest Engineering Co., Rapid City, S. D., $110,909. CD 3/20—ENR 3/22.

†Idaho, Coeur d'Alene—Farm Security Admin., 950 Bway., Denver, Colo., Mar. 30, leveling 700 acres and constructing drainage sys. and laterals, from M. W. Brown, Red- ding, Calif., $47,443. CD 3/12—ENR 3/15.

Ill., Peoria—Greater Peoria Sanitary & Sewage Dist., foot of Darst St., Apr. 4, levee enlargement involving 64,000 cu. yd. earth- work at sewage treatment works, from C. A.

EARTHWORK (Low Bidders Cont'd.)

Powley, 29 Easton Pl., **$49,705.** CD 3/22—ENR 3/29.

†Tex., Galveston—U. S. Eng., 25 St. and Avenue F, Apr. 3, dredging Brazos River, Intracoastal Canal Crossing (C1-4), from Standard Dredging Corp., Cotton Exchange Bldg., Galveston, **$18,649.**

CONTRACTS AWARDED

Illinois—State Div. Waterways, 201 W. Monroe St., Springfield, dredging, excav. approx. 90,000 cu. yd. material in Little Calumet River, through Blue Island, Riverdale, Dixmoor and Harvey, all Cook Co., to George C. Bolz Dredging Co., 3615 Olive St., St. Louis, Mo., **$169,200.** Bids 3/1, awarded 3/28. CD 2/16—ENR 2/22.

†Illinois—U. S. Eng., 800 U. S. Court House & Custom House, 1114 Market St., St. Louis 1, Mo., placing approx. 75,000 cu. yd. earth in repairing earthen levees in Hillview Drainage & Levee Dist., Neg. 23-035-45-103, Scott Co., to Stiers Bros. Constr. Co., 2944 Magazine St., St. Louis 6, Mo., **$24,750.** Bids 3/19.

†Missouri—U. S. Eng., 800 U. S. Court House and Custom House, 1114 Market St., St. Louis, Zone 1, repairing levees in Winfield Drainage Dist., incl. about 85,000 cu. yd. earth to be placed, Neg. 23-065,45-102, Lincoln Co., to L. Gray, 8742 Litzinger Pl., Brentwood, St. Louis, Zone 17, **$33,490.**

Tex., Fort Worth—City, City Hall, flood control work, to Purvis & Bertram, 112½ W. 9 St., **$50,615.** CD 4/4.

Tex., Richmond—A. Meyer, First Natl. Bank Bldg., lake imprvs., rein.-con. embankment, spillway, dirt removal, etc., to W. E. Worthen, 6711 Avenue V, approx. **$17,300.** CD 3/1—ENR 3/8.

LATIN AMERICA

Bahamas, Gregorytown—**Colonial Government of Nassau, New Providence Island,** will construct 71 mi. road, by day labor. **$200,000.** Dpt. Works, Nassau, Bahamas, engr.

Mexico—State of Mexico. Governor Isidrio Fabela, Toluca, will construct and repair road between San Bartolo Naucalpan and S. Luis Tlaltilco, by day labor. **$115,000.**

Mexico, Puchuca—State of Hidalgo, Governor Jose Lugo Guerrero, Puchuca, will construct La Esperanza dam to irrigate Chico, Grande and San Lorenzo Sections, by day labor. **$250,000.**

Mexico, Victoria—State of Tamaulipas, Governor Magdaleno Aguilar, Tampico, takes bids within 90 days, constructing electrical plant. **$150,000.**

PUBLIC BUILDINGS

PROPOSED WORK

†Calif., Bakersfield—Pub. Housing Auth., NHA, 760 Market St., San Francisco, plans by E. L. McCoy, 135 Hay Bldg., 50 temporary family dwelling units, Calif. 4060, and 50 temporary family dwelling units, Calif. 4986. CD 2/8—ENR 2/15.

†Calif., Corona — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., auditorium at Spadra annex, Naval Hospital. **$95,000.**

†Calif., Los Angeles—Pub. Housing Auth., NHA, 760 Market St., San Francisco, 300 family stopgap housing units, Calif. 4072.

★**†Colo., Anvil Points**—Bureau Mines, Denver, constructing oil-shale demonstration plant, $1,500,000.

†Conn., Hartford—Pub. Housing Auth., NHA, 24 School St., Boston 8, Mass., making plans drainage work, War Housing Conn. 6124. Buck & Buck, 650 Main St., engrs.

†D. C., Wash. — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., expan. shop, $140,000; constructing cafeteria, $100,000, at Naval Communications Annex.

†D. C., Wash.—Pub. Bldgs. Admin., 18 and F Sts. N.W., Zone 25, postponed indefinitely bids to have been opened Apr. 5, nurses home at St. Elizabeth Hospital. D.C. 49183. $200,000. **FWA.** CD 3/8—ENR 3/15.

Fla., Lake Alfred—State, Tallahassee, bids soon citrus packing pilot plant at Lake Alfred Experiment Station, $50,000. N. Mayo, Tallahassee, secy. Agriculture.

Ill., Wheaton—Comrs. DuPage Co., Wheaton, bond election June 4, court house addn. $300,000.

★**†La., New Orleans**—Pub. Housing Auth., NHA, 1411 Electric Bldg., 7 and Lamar Sts., Fort Worth 2, Tex., 500 new hutments for Higgins Aircraft plant, La. 16100. $1,000,000.

†La., New Orleans—Pub. Housing Auth., NHA, 1411 Electric Bldg., 7 and Lamar Sts., Fort Worth 2, Tex., 150 frame housing units, La. 16106. $450,000.

★**†La., Rodessa**—Cabot Carbon Co., Rodessa, carbon black plant. **$1,048,000.** Defense Plant Corp. will finance.

†Me., Togus—Veterans Admin., Vermont Ave. between H. and I Sts. N.W., Wash. 25, D. C., making plans brick, stone, occupational therapy bldg., concrete fdn., Veterans Hospital. To exceed **$150,000.**

†Md., Bethesda — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., West Annex, Research Institute, $240,000; air-conditioning auditorium and main mess hall, $100,000, National Naval Medical Center.

†Md., Randle Cliffs—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., 20 houses, not exceeding $7,500 each, incl. roads, walks, services and collateral equip, for technical personnel, Naval Research Laboratory Annex. **$225,000.**

★**†Mich., Fort Custer (br. Battle Creek)**—U. S. Eng., 408 Federal Bldg., Milwaukee, Wis., plans by **Louis C. Kingscott & Assoc.**, Inc., Kalamazoo, remodeling, alteration barracks into convalescent wards, shops, etc., for veterans, $1,205,000. CD 3/6—ENR 3/8.

Minn., Little Falls—City Bd. Educ., J. H. Viner, supt. schools, voted bonds, school addn. $300,000. CD 3/14.

Minn., Sleepy Eye—City, J. S. Jensen, clk., bids soon municipal power plant addn., furnishing, installing high pressure boiler, miscellaneous equip. $200,000. R. D. Thomas & Associates, 1200 2 Ave. S., Minneapolis, engrs.

†N. M., Monument—Charles Eneu Johnson & Co., 10 and Lombard Sts., Phila., Pa., carbon black mfg. unit. **$410,000.** Defense Plant Corp. will finance.

†N. Y., Fox Hills—U. S. Eng., 120 Wall St., New York, Zone 5, addnl. bldg. **$143,000.**

†N. Y., Mineola—U. S. Eng., 120 Wall St., New York, Zone 5, bids soon cold storage bldg. addns. $30,000.

†N. C., Camp Lejeune (New River br. New Bern)—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., architectural and engineering services by **Carr & J. E. Greiner Co., Durham,** recreation bldg. CD 4/2—ENR 4/5.

†N. C., Camp Lejeune (New River, br. New Bern) — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., main mess hall alterations, Naval Hospital. $28,000.

†N. M., Eunice—Phillips Petroleum Co., Eunice, addnl. bldg. for carbon black unit or desulphurization plant. $142,826. Defense Plant Corp. will finance.

★**†N. Y., Saint Albans** — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., permanent hospital bldg. for 1,000 beds, Naval Hospital. $7,520,000.

★**†N. C., Camp Lejeune (New River, br. New Bern)** — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., service club at Courthouse Bay, $107,000; brig addn., $354,000; 4 quartermaster warehouses, $1,483,000; signal supply warehouse, $362,000; reproduction bldg., $267,000; officers quarters, $1,380,000; warrant officers quarters, $870,000; service club at rifle range, $152,000; exten. camp utilities and roads, $1,079,000.

★**†N. C., Salisbury**—U. S. Eng., 21 St. and Virginia Ave. N.W., Wash. 25, D. C., veterans hospital, $4,500,000. Site selected.

†Pa., Phila. — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., hospital corpsmen quarters and bag storage room, Naval Hospital. $335,000.

★**†Pa., Phila.**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., 6th floor on Warehouse 2-2, Marine Corps Depot of Supplies. $500,000.

★**†Tex., Borger**—Cabot Carbon Co., Borger, addnl. bldg. for mfg. carbon black. $801,666. Defense Plant Corp. will finance.

†Tex., Borger—J. M. Huber, Inc., Borger, carbon black or desulphurization unit, $212,400. Defense Plant Corp. will finance.

†Tex., Borger — Phillips Petroleum Co., Borger, carbon black or desulphurization plant. $260,500. Defense Plant Corp. will finance.

†Tex., Clements — Jefferson Lake Sulphur Co., Clements, carbon black or desulphurization unit. $360,454. Defense Plant Corp. will finance.

†Tex., Foster Field (Midland area)—United Carbon Co., Foster Field, carbon black or desulphurization plant unit. $139,000. Defense Plant Corp. will finance.

†Tex., Goldsmith—Phillips Petroleum Co., Goldsmith, addnl. bldg. at carbon black or desulphurization plant. $53,000. Defense Plant Corp. will finance.

†Tex., North Cowden—Cities Service Oil Co., North Cowden, addnl. bldg. for mfg. carbon black, $150,000. Defense Plant Corp. will finance.

†Tex., Odessa — Cities Service Oil Co., Odessa, addnl. bldg. for mfg. carbon black. $224,000. Defense Plant Corp. will finance.

Tex., Palacios—City, J. L. Deutsch, mayor, preparing plans 1 story, 70x180 ft., steel frame, iron clad quick freeze plant, rein.-con. fdn. $150,000. Garrett Engineering Co., 1806 Milam St., Houston, engrs.

†Tex., Wickett—Cabot Carbon Co., Wickett, addnl. bldg. for mfg. carbon black. $150,000. Defense Plant Corp. will finance.

†Va., Portsmouth—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., occupational therapy bldg., $90,000; powerhouse alterations, $60,000, Naval Hospital.

★**†Va., Quantico**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., increase Marine Corps school activities, $862,000; officers quarters, $1,694,000; noncommissioned officers quarters, $1,800,000; chapel, $291,000; 3 warehouses, $311,000; enlisted men's dining tank, $[illegible]000; exten. steam lines, $38,000; guard house, $[illegible]; industrial, $491,000; fire alarm sys., for barracks, natural gas lines, $75,000; reproduction bldg., station and hospital, $22[illegible] at Marine Barracks.

†Wash., Longview—School Bd., Longview, plans by Wolff & Phillips, Pearson 4th Ave. Bldg., Portland, Ore., 1 story, frame, masonry school. $138,000. **FWA.** CD 11/22—ENR 12/[illegible]

★**Alta., Calgary**—Victoria Hospital, Calgary, 128-bed hospital for servicemen and ex-servicemen. About $500,000.

★**Que., Montreal**—Province of Quebec City, plans by Dpt. P. Wks., Quebec City, office bldg. $1,000,000.

★**Que., Quebec City**—Province of Quebec City, plans by Dpt. P. Wks., Quebec City, 10 story office bldg. $1,500,000.

★**Ont., Sarnia**—Municipality, W. O. Hipp, mayor, City Hall, 300 permanent dwellings. $1,200,000. CD 3/7—ENR 3/15.

BIDS ASKED

Bids Asked April 16

N. Y., New York—Comr. Parks, Dpt. Parks, Arsenal Bldg., Central Park, 64 St. and 5 Ave., Zone 21, rehabilitation 3 bldgs., occupied by U. S. Army for anti-aircraft purposes; field house, East River Park at 2[illegible] 6 St.; recreation bldg. East River Park, south of Grand St.; recreation bldg., Central Park, near 97 St., Contr. M-10-145.

Bids Asked April 17

†D. C., Wash.—Bd. Educ., District Bldg., school bldg., D. C. 49-189. $350,000. **FWA.** Plans deposit $20. CD 1/5—ENR 1/18.

N. C., Hoffman—S. Leonard, chn. North Carolina Correctional Bd., 510 Revenue Bldg., Raleigh, laundry alterations, addns., painting, cleaning 50,000 gal. elevated steel water tank, deep well pump, equip., and new watermains at Training School. Bids 3/[illegible] rejected. Northrup & O'Brien, Winston-Salem, archts. CD 3/7—ENR 3/15.

Bids Asked April 18

Ont., Ottawa—Secy. Dept. P. Wks., Ottawa, workshop bldg., Rideau Health and Occupational Centre. $45,000. C. D. Sutherland, c/o owner, archt. Plans deposit $25.

Bids Asked April 19

†Md., Baltimore—Bd. Awards, City Hall, 2 story, bsmnt., 65x215 ft., Cherry Hill Elementary and Junior High School, Md. 15-215-N. $294,000. **FWA.** Buckler & Fenhagen, 325 N. Charles St., archts. CD 3/27.

†N. M., Alamogorda—Pub. Housing Auth., NHA, 1411 Electric Bldg., 7 and Lamar Sts., Fort Worth 1, Tex., 100 family stop-gap dwelling units, N. M. 29188. Plans deposit $25. W. C. Kruger, Sena Plaza, Santa Fe, archt. CD 3/28—ENR 4/5.

Bids Asked April 20

†Calif., San Bruno—Pub. Housing Auth., NHA, 760 Market St., San Francisco, 150 temporary family dwelling units, Calif. 4033-N. Extended date. L. J. Sharps, E. R. MacDonald & A. C. Williams, 760 Market St., archts. CD 4/3—ENR 4/5.

Bids Asked April 23

†Ark., Pine Bluff—Pub. Housing Auth., NHA, 1411 Electric Bldg., 7 and Lamar Sts., Fort Worth 1, Tex., 50 family dwelling units, Ark. 3144. Plans deposit $50. Erhart & Eichenbaum, Pyramid Bldg., Little Rock, archts. CD 3/28—ENR 4/5.

Pa., Bedford—Bd. Educ., D. C. Reilly, pres., 2 story, bsmnt., 50x203 ft., face brick on hollow tile backup, limestone high school addn., alterations. $150,000. Hunter & Caldwell, 3601 5 Ave., Altoona, archts.

Que., Sorel—O. Cartier, secy. School Comm. of Sorel, City Hall, 2 story irregular shaped rein.-con., brick, school and residence for teachers, Adelaide and Prince Sts. About $190,000. R. Charbonneau, 5149 Decari Blvd., Montreal, archt. CD 3/29—ENR 4/5.

Bids Asked April 24

Calif., Huntington Beach—State Div. Architecture, P. Wks. Bldg., Sacramento, office and laboratory for State Lands Comm. Plans deposit $25. A. Boyd, P. Wks. Bldg., Sacramento, state archt.

Ia., Hawarden—City, E. Ericson, clk., light plant expansion, incl. Diesel engine and bldg. addns. $100,000. Buell & Winter, 508 Insurance Exch. Bldg., Sioux City, engrs. CD 2/7—ENR 2/15.

Bids Asked April 26

†Calif., Pleasanton—Pub. Housing Auth., NHA, 760 Market St., San Francisco, 150 family dwelling units, Calif. 4988-N. W. D. Peugh & Associates, 333 Montgomery St., San Francisco, archts. CD 3/20—ENR 3/22.

Bids Asked May 15

†O., Chillicothe—Veteran's Admin., Vermont Ave. between H and I Sts. N.W., Wash.

LIC BLDGS. (Bids Asked, Cont'd.)
D. C., Storehouse Bldg. 23, addn., incl. , etc., Proj. 2072. CD 1/10—ENR 1/18.

Bids Asked May 23

D., Sioux Falls—Veterans Admin., Ver- Ave. betweeen H and I Sts. N.W., 25, D. C., constructing Main Bldg. 5, water tank and Tower 6, incl. roads, grading, drainage, excav., etc., Proj.

Bids Asked

Conn., Naugatuck—Naugatuck Chemical Rubber Reserve Co., Elm St., 3 story ft., OEI unit factory addn. $45,000. cher Thompson, Inc., 211 State St., geport, engrs. CD 3/27—ENR 3/29.

Mass., Springfield—U. S. Eng., 31 St. es Ave., Boston, (selected bidders) stor- depot, No. 19-023-45-Neg-115.

W BIDDERS

Mass., Camp Myles Standish—U. S. Eng., St. James Ave., Boston, addnl. bldgs., 19-023-45-Neg-110, from H. N. Worth- on Co., 414 Newport Ave., Quincy, $91,-

Mass., Fort Devens—U. S. Eng., 31 St. es Ave., Boston, Apr. 5, addnl. bldgs., tr. 19-023-45-Neg-111, from John Bowen 129 Newbury St., Boston, $84,000.

N. Y., Sonyea—Dpt. Mental Hygiene, State Office Bldg., Albany, Zone 1, Apr. female infirmary bldg., from Caristo str. Co., 26 Court St., Brooklyn, Base Bid 525,000; Base Bid 2 $533,000. CD 2/23— R 3/1.

Ore., Klamath Falls—Pub. Housing Auth., A, Skinner Bldg., 5 Ave. and Union Sts., ttle 1, Wash., Mar. 31, 155 housing units 2 story frame bldgs., Ore. 35312-N, from lverson Constr. Co., 1st National Bank dg., Salem, $393,686. CD 3/21.

Tex., Fort Sam Houston—U. S. Eng., Fort m Houston, Apr. 2, hospital messes and vators (Annex 2, 3 & 4) for Brooks Gen- l Hospital, Ser. No. W-41-154-45-95 from L. Browning, Jr., 812 Insurance Bldg., n Antonio, $299,425. CD 3/26.

Tex., Fort Sam Houston—U. S. Eng., Fort m Houston, Apr. 6, administration clinical l processing facilities for Brooke Con- lescent hospital, Ser. No. 41-154-45-108, m J. C. Worcester, Box 5066, Beacon Hill tion, San Antonio, $50,698. CD 3/30—ENR 5.

Tex., McKinney—U. S. Eng., 231 W. Main Denison, occupational therapy and ysiotherapy bldg., facilities and library, r. 42-242-45-113, from T. C. Bateson Co., win-Keasler Bldg., Dallas, $86,000. CD 28—ENR 4/5.

Utah, Ogden—Order of St. Benedict, den, Mar. 28, boiler house, laundry and rage at hospital and nurses home. Utah -178-N, from Lym Engineering Co., Box 4, Salt Lake City, $174,168. FWA. CD 3/20.

Wis., Tomah—Veterans Admin., Ver- mont Ave. between H and I Sts. N.W., ash. 25, D. C., Apr. 3, addnl. hospital dgs. etc. from Gust K. Newburg Constr. n, 9 S. Clinton St., Chicago, Ill., $4,855,000. D 3/12—ENR 3/15.

ONTRACTS AWARDED

Calif., Benicia—U. S. Eng., 74 New Mont- omery St., San Francisco, paint shop and oiler house at Benicia Arsenal, Job 1882. H. H. Larsen Co., 64 South Park, San rancisco, $50,102.

★Calif., El Toro—Pub. Housing Auth., NHA, 760 Market St., San Francisco, 60 dgs., containing 280 dwelling units, com- unity bldg. No. 115 and all site imprvs., alif. 4898-N, to Lewis Hunt & Roscoe & and, 854 S. Robinson Blvd., Los Angeles, 599,468. CD 4/4, under LB—ENR 3/8.

Md., Middle River—Glenn L. Martin Co., Middle River, aircraft plant alterations for War Dpt. to Consolidated Engineering Co., 20 . Franklin St., Baltimore, $249,500. Awarded 3/10.

Nev., Hawthorne—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., addnl. personnel and office dgs., Naval Ammunition Depot, NOY 12161, to Wm. P. Neil Co., Ltd., P.O. Box EE, $311,961.

★N. J., Bayonne—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., 2 standard type storehouses, Naval Supply Depot, NOY 11394, to John A. Johnson Contg. Corp., 270 41 St., Brooklyn, N. Y., $872,511. CD 2/4, under LB.

★N. J., Fort Dix (br. Trenton)—U. S. Eng., 120 Wall St., New York 5, N. Y., afeteria messes, reception center, to Andrew Christensen & Sons, Inc., 1140 E. Jersey St., Elizabeth, $535,521. CD 4/3—ENR 4/5, under LB.

N. Y., Schenectady—U. S. Eng., 120 Wall St., New York, steel shop, to Willcox Constr. Co., Inc., 25-20 41 St. Long Island City, $111,- 515. CD 3/22.

★Tex., Borger—Phillips Petroleum Co., Bartlesville, Okla., toluene mfg. plant, to Bechtel-McCone Co., 601 W. 5 St., Los Angeles, Calif., $6,500,000. Defense Plant Corp. will finance.

Tex., Houston—Rheem Mfg. Co., 816 M & M Bldg., concrete flooring, slab and piping for prefabricated structural steel bldg., to Gulf Constr. Co., 2008 S. Wayside Dr., approx. $150,000. Defense Plant Corp. will finance.

★Wash., Seattle—Pub. Housing Auth., NHA, Skinner Bldg., 5 and Union Sts., Seattle, Zone 1, 315 housing units in 2 story frame bldgs., Sand Point Dist., Wash. 45319-N, to Strand & Sons, 3939 University Way, Seattle, Zone 5, $822,500. Bids 3/29. CD 3/20—ENR 3/22.

Wash., Walla Walla—U. S. Eng., 628 Pittock Block, SW. 10 Ave. and Washington St., Portland, Ore., addnl. WAC and medical detachment housing and conversion of wards, McCaw General Hospital, Contr. W-35-026-eng-1357, to A. Kitchie & Co., Walla Walla, $211,953.

N. S., Halifax—City, exten. tuberculosis hospital, to Foundation Maritime, Ltd., 135 Lower Water St., $348,239.

COMMERCIAL BUILDINGS

PROPOSED WORK

Colo., Colorado Springs—Glockner Hospital & Sanitarium, Colorado Springs, plans by Burnham Hoyt, Colorado National Bank Bldg., Denver, 2 story, bsmnt., brick, stone hospital addn. $166,000.

Mass., South Lancaster—Atlantic Union College, Flagg St., plans by R. Senseman, Carroll Ave., Takoma Park, Wash., D. C., brick, steel gymnasium. $150,000.

Wash., Spokane—Sacred Heart Hospital, W. 101-8 St., plans by G. A. Pehrson, Hutton Bldg., 2 story, rein.-con., nurses home addn. $190,000. Applying for FWA funds. CD 2/9—ENR 2/15.

BIDS ASKED

Bids Asked April 16

N. J., Vineland—N. J. Bell Telephone Co., 540 Broad St., Newark, office bldg., Elmer and 6 Sts. Voorhees, Walker, Foley & Smith, 101 Park Ave., New York 17, N. Y., archts.

Bids Asked About May 1

Tex., Houston—Sisters of Immaculate Conception, c/o Father John J. Roach, St. Elizabeth St., 3 story, bsmnt., brick. rein.-con., tile hospital, boiler house and laundry, etc. concrete fdn., 4500 Block, Lyons Ave. $200,000.

CONTRACTS AWARDED

★**Calif., Redondo Beach**—E. Flodine, 2021 Wellington Rd., Los Angeles, 372 frame, stucco dwellings in North Redondo Beach near Inglewood Ave., Manhattan Beach Blvd., and Robinson Blvd. Owner builds, $2,000,000.

Calif., San Bernardino — San Bernardino Properties, Inc., 840 Mt. Vernon Ave., 65 dwellings, Tract 1938, to A. Harootunian, 1372 S. Holmby Ave., West Los Angeles, approx. $325,000. H. Gibbs, 441 E. 1 St., Long Beach, archt.

★**Colo., Denver**—Chaffee Park Building Corp., 201 Security Bldg., 130 single unit, 1 story housing, streets, sewers, water lines, separate contracts. $650,000. R. H. Ervin, 728, Patterson Bldg., archt.

Colo., Denver — Colonial Gardens, Inc., 1536 Welton St., 8 bldgs., containing 40 units, brick, cinder block, housing, to Walter H. Harris, 4245 Grove St. Est. $250,000. R. H. Ervin, 728 Patterson Bldg., archt.

R. I., Providence—St. John's Ukranian Church, Rev. Joseph Zelechiwsky, 37 Pilgrim St., 1 story, bsmnt., stone, church and rectory, concrete fdn., separate contracts. $150,000. Dimitri & Dimitri, 187 Farmington Ave., Cranston, archts. CD 12/29—ENR 1/4.

Utah, Helper—The Denver & Rio Grande Western R.R. Co., A. E. Perlman, ch. engr., Rio Grande Bldg., Denver 1, Colo., rehabilitation 76 company owned homes, to M. B. Garff, 2256 Oneida St., Salt Lake City, Zone 5. Est. $250,000.

INDUSTRIAL BUILDINGS

PROPOSED WORK

Calif., Albany—FACTORY—Pacific Tank & Pipe Co., 4621 Tidewater Ave., Oakland, wooden pipes and tanks assembly factory. Over $40,000. E. A. Tarr, 1424 Grant St., Berkeley, Zone 3, engr.

Conn., Bridgeport — PLANT — Auto-Ordnance Corp., R. Maguire, pres., 1437 Railroad Ave., making plans brick plant addn., Railroad Ave. Over $40,000.

Conn., East Hartford—CELLS—Pratt & Whitney Div. United Aircraft Corp., 400 Main St., soon lets contract, added construction 18 test cells, jet work. Albert Kahn Associated Architects & Engineers, Inc., 345 New Center Bldg., Detroit, Mich., engr.

Conn., New Haven—WAREHOUSE, etc.—Warner Brothers, Inc., 321 W. 44 St., New York, N. Y., soon lets contract, 2 story, rein.-con. film warehouse and exchange bldg., Meadow St. $100,000. E. C. A. Bullock, 119 W. 57 St., New York, N. Y., archt.

Ga., Blakely—WAREHOUSE—C. H. Bayett, Blakely, plans by H. L. Holman, Jr., Ozark, Ala., 1 story, 100x1200 ft., brick, concrete warehouse. To exceed $40,000.

Ill., Cairo—WAREHOUSE—Swift & Co., U. S. Yards, Chicago, plans by H. W. Ruskamp, c/o owner, 1 story soy bean warehouse, brick, concrete, steel. $190,000.

Ind., Indianapolis—PLANT—P. R. Mallory Mfg. Co., 1315 East Washington St., plant, $100,000 or more with equip.

La., Tangipahoa—DAIRY—Wm. B. Burk, engr., 504 Pan American Bldg., New Orleans, soon lets contract 16x36 ft., dairy plant addn., for Cloverland Dairy Co., 3400 S. Carrolton St., New Orleans. CD 4/2—ENR 4/5.

Mich., Detroit — PLANT — Carboloy Co., Inc., 11177 E. 8 Mile Rd., 1 story, brick, rein.-con., steel plant addn. Approx. $350,-000.

Mich., Detroit—PLANT—J. J. Gielow & Sons, 4189 Cabot St., plans by R. H. Neubrecht, 233 John R St., food processing plant, brick, steel, concrete. $50,000.

Miss., Magnolia—DAIRY—Wm. B. Burk, engr., 504 Pan American Bldg., New Orleans, La., soon lets contract 23x36 ft., dairy plant addn., for Cloverland Dairy Co., Inc., 3400 S. Carrolton St., New Orleans, La.

N. J., Atlantic City—LAUNDRY—Anderson Coat, Apron & Towel Supply Co., 513 Grammercy Pl., repairing laundry, $45,000.

N. Y., North Hoosick—FACTORY—White Flomatic Corp., North Hoosick soon lets contract, rebuilding factory, damaged by fire. Plans deposit $25. Keis & Holroyd, 257 Bway., Troy, engrs.

N. C., Norwood — WAREHOUSE, etc. — Collins & Aikman Corp., 51 St. and Parkside Ave., Phila., Pa., C. E. Menneefee, local mgr., Norwood, bids soon warehouse and opener room. W. H. Deitrick, 115 W. Morgan St., Raleigh, archt.

N. C., Shelby—FACTORY—Southern Cotton Oil Co., R. C. Barnett, genl mgr., S. Morgan St., fertilizer factory, on 15 acre site. $300,000.

Ore., Eugene—WAREHOUSE—McCracken Bros. Motor Freight, 556 Charnelton St., plans by G. R. Smith, Guard Bldg., Warehouse. $47,516.

Pa., Ambler—WAREHOUSE—A. Kotelle, Ambler, rebuilding warehouse. $45,000.

Pa., Franklin—PLANT—Franklin Plastics Div., Robinson Industries, Inc., W. S. Perry, pres., Franklin, 1 story, 85x165 ft., brick, concrete tile plant addn., Grant St. $50,000.

★**Pa., Lansford**—PLANT—Lehigh Navigation Coal Co., Fidelity Trust Bldg., Phila., and Lansford, light weight aggregate plant, $700,000.

Pa., Phila.—PLANT—Chrome Gauge Co., R. N. Hirsh, genl. mgr., 3217 Frankfort Ave., plans by C. L. Gaspary, 1701 Walnut St., plant addn. $40,000.

Pa., Phila. — PLANT — Globe Drum Co., Delaware Ave. and Mifflin St., rebuilding industrial plant. $50,000.

Tex., Beaumont — PLANT — Pittsburgh Plate Glass Co., 625 18 St., glass plant addn. $50,000 or more. Site purchased.

Tex., Houston—WAREHOUSE—Southern Supply Corp., 312 Dowling St., 62x120 ft., tile, concrete, brick warehouse, etc. $40,000.

Tex., McAllen—PLANT—Radio Refining Co., McAllen, rein.-con., steel addnl. unit, ethyl gasoline industrial plant. $50,000.

Tex., Monte Alto—CANNERY, etc.—Rio Farms, Inc., Monte Alto, vegetable cannery, $50,000; citrus and vegetable packing plant, $40,000; water sys., over $15,000.

Tex., Odessa—STORAGE, etc.—Tri-State Equip. Co., Odessa, plans by Fraser & Benner, 310 El Paso National Bank Bldg., El Paso, storage and warehouse, $40,000.

Tex., Raymondville — PLANT — Central Power & Light Co., 222 E. Hidalgo St., ice mfg. plant, brick, rein.-con. $40,000.

Tex., Raymondville — WAREHOUSE — Humble Oil & Refining Co., 400 Missouri-Pacific Ry. tracks, Raymondville, warehouse, $40,000.

Tex., San Marcos—BAKERY—Simon Bakery, San Marcos, bakery unit, $40,000.

Tex., Weslaco—PLANT—American Fruit Growers, Inc., c/o H. Williams, 1st Natl. Bank Bldg., preparing plans 1 and 2 story brick, rein.-con., sheet metal packing plant, East Hy., 1 story, concrete rein.-con., face brick and common brick office.

Wis., Antigo—POWER HOUSE—Antigo Milk Products Co-Op., Antigo, plans by Oppenhamer & Obel, Green Bay, 1 and 2 story, 63x103 ft., structural and reinforcing steel, brick, power house, concrete fdn.

Wis., Eau Claire—FACTORY—Natl. Pressure Cooker Co., 1515 Ball St., plans by Magney-Tusler & Setter, 202 Foshey Tower, Minneapolis, Minn., 1 story and 2 story, steel, rein.-con., brick factory addns., concrete fdns. $100,000.

★**Wis., Green Bay**—POWER PLANT—Wisconsin Pub. Serv. Coop., Bellin Bldg., power plant addn. $2,800,000 incl. equip. A. G. Carson, c/o owner, ch. engr.

Alta., Patricia—DIAMOND DRILLING—Kega Gold Mines, Ltd., Patricia, diamond drilling, $50,000.

B. C., Comox—DIAMOND DRILLING—Santiago Mines, Ltd., 712 Robson St., Van-

INDUSTRIAL BLDGS. (Proposed Work Cont'd.)

couver, diamond drilling on several properties on Lasqueti and Texada Islands, near here. $75,000.

Que., St. Laurent (Postal Dist. Montreal) — REFRIGERATION PLANT — Modern Packers, Ltd., 4670 Iberville St., Montreal, refrigeration plant. About $65,000.

BIDS ASKED

Conn., Stamford—PLANT—Andrews Industries, 100 Greylock Pl., brick, concrete plant addn., incl. machine shop facilities.

Ill., Chicago — FACTORY — S. Klefstad, archt., 3600 W. Fullerton St., 1 story, 75x125 ft., brick factory, for Forward Tool & Mfg. Co., 355 N. Laflin St.

LOW BIDDERS

Ore., Milton — PLANT — Blue Mountain Prune Growers Cooperative, Milton, Mar. 30, 32x125 ft. packing and cold storage plant addn., from Halvorson Constr. Co., 1st National Bank Bldg., Salem, $47,403. E. G. Morgan & H. E. Crawford, 1st National Bank Bldg., Walla Walla, Wash., archts. CD 3/26—ENR 3/29.

CONTRACTS AWARDED

Calif., Andrus Island—GRAIN ELEVATOR —Riverside Elevators, Isleton, 62x428 ft. grain elevator with 62x87 ft. head house, concrete walls and floors head house, steel sash, etc., to Barrett & Hilp, 918 Harrison St., San Francisco. Est. $225,000. Ellison & King, 500 Sansome St., San Francisco, engrs.

Calif., Azusa—PLANT—Aerojet Engineering Co., 285 E. Colorado St., Pasadena, 10 rein.-con., wood frame bldgs., ranging in size from 10x12 to 50x80 ft., to J. O. Oltmans & Son, 810 E. 18 St., Los Angeles, $50,600. J. H. Fleming, 1129 Melrose Ave., Glendale, archt.

Calif., Burbank — WAREHOUSE — Lockheed Aircraft Corp., 2555 N. Hollywood Way, 200x400 ft. tooling warehouse at Plant B-3, to H. W. Baum & Co., 1816 Dorcas Court, $234,300. Bids 3/26. CD 3/22—ENR 3/29.

★**Calif., Coalinga**—PLANT—R. S. Lytle, Coalinga, gasoline absorption plant, 10 mi. northeast of here, to C. F. Braun & Co., 1000 S. Fremont Ave., Alhambra. Est. $500,000.

Calif., San Jose—BUS DEPOT—Greyhound Bus Lines, 5 and Mission Sts., San Francisco, altering bus depot, to Bridges Constr. Co., 1071 Pine Ave. Est. $42,000. W. D. Peugh, 333 Montgomery St., San Francisco, archt.

Calif., Vernon—FACTORY—Norris Stamping Co., 5215 S. Boyle Ave., design and construction 1 story, 150x760 ft., brick, concrete factory bldg., adjoining present plant, 5215 S. Boyle Ave., to Chas. L. Webber & Co., 606 S. Hill St., Los Angeles, approx. $350,000. CD 2/21—ENR 3/1.

Conn., Derby—FACTORY—Sponge Rubber Products Co., Howe Ave., Shelton, 2 story, 100x315 ft., brick, steel, concrete factory addn., incl. heavy machinery and 2 elevators, to Dwight Building Co., 152 Temple St., New Haven. Est. $300,000. CD 2/14—ENR 2/22.

Conn., New Milford — WAREHOUSE — Maggi Co. Inc., Boardman Rd., 1 story, 80x125 ft., concrete, masonry, cinder block warehouse, to C. M. Beach, 30 Bridge St. Est. $40,000. Fletcher Thompson, Inc., 211 State St., Bridgeport, engr.

Conn., Torrington—FACTORY—Turner & Seymour Mfg. Co., Lawton St., brick factory addn., to Torrington Bldg. Co., Inc., 187 Church St. Est. $40,000.

Conn., Waterbury—BOILER PLANT, etc. —Benrus Watch Co., Cherry St., 1 story, 35x50 ft., and 1 story, 30x40 ft., boiler plant and garage, incl. incinerator, to W. J. Megin, Inc., 51 Elm St., Naugatuck. Est. $50,000. CD 3/14—ENR 3/22.

Conn., Watertown — WAREHOUSE — R. Sperry, et al, Woodbury Rd., 1 story, 84x88 ft., cork insulated cold storage warehouse for fruit, to W. L. Walker Co., 185 Prospect St., Bloomfield. Est. $40,000.

★**Ill., Lockport** — PLANT — Texas Co., Lockport, catalytic cracking plant, to M. W. Kellogg Co., 225 Bway., New York, N. Y. Est. $15,000,000.

Mich., Detroit—TANK ENGINE TEST CELL BLDGS.—Ford Motor Co., Lincoln Motor Plant, 6200 W. Warren Ave., brick, concrete, steel tank engine test cell bldgs., to Cunningham-Rudy Co., 3087 W. Grand Blvd. Est. $277,230.

Mich., Saginaw—PLANT—Saginaw Malleable Iron Div. General Motors Corp., Saginaw, design and construction brick, steel, rein.-con. plant, to The Austin Co., Inc., 429 Curtis Bldg., Detroit. Est. $238,000.

N. H., Ashuelot—MILL—Robertson Co., Ashuelot, rebuilding mill, separate contracts. $75,000.

Ore., Flavel (mail Warrenton)—PLANT—Del Mar Packing Co., Monterey, 70x118 ft. cold storage plant, to Hendrickson & Anderson, Astoria. Est. $100,000.

★**Pa., McKeesport**—PLANT BLDGS.—National Tube Co., Frick Bldg., Pittsburgh, general contract, 1 story, 150x675 ft., brick, steel mfg. bldg. addns., alterations, to Mellon Stuart Co., 210 E. Parkway, Pittsburgh. Est. $1,000,000 ($3,800,000 with equip.). F. H. Moyer, c/o owner, engr. CD 11/22—ENR 11/30.

Pa., Phila. — SERVICE — Barrett Div. Allied Chemical & Dye Corp., P. G. Link, plant mgr., Margaret and Bermuda Sts., 5 service bldg addns., alterations, own forces. $40,000. CD 2/27—ENR 3/1.

Pa., Phila.—WAREHOUSES—Philco Corp., Tioga and C Sts., altering 2 warehouses, to Jack S. Steel Co., 1316 Arch St., $17,000. (Correction—Cost). CD 3/7—ENR 3/15, under CA.

Pa., Pittsburgh—FREIGHT TERMINAL—Lancaster Transportation Co., A. Robby, field mgr. and chg., 701 E. Ross St., Lancaster, 1 story, 140x150 ft., brick, steel freight terminal, to Navarro Corp., 6219 Broad St. Bids 1/12. CD 1/10—ENR 1/18.

R. I., Bristol—FACTORY—U. S. Rubber Co., 500 Wood St., 2 story, 110x160 ft., brick Factory Bldg. 35, to H. V. Collins, 7 Dyer St., Providence. Est. $125,000. Bids 3/26. CD 3/23—ENR 3/29.

R. I., Waterville—POWER PLANT—Maine Central R. R. Co., 222-242 St. John St., Portland 4, Me., brick, steel, concrete power plant, shops and engine house, to Underground Steam Constr. Co., 75 Pitts St., Boston, Mass. Est. $50,000. Bids 2/28.

Tex., Fort Worth—PLANT BLDGS.—Swift & Co., Packers Ave., office bldg. and dressing room addn., to McClellan, Brown & McClellan, Packers Ave., $43,000. CD 9/20—ENR 9/28.

Tex., Nocona—FROZEN FOOD PLANT—Community Frozen Food Proj., c/o J. Denton, Nocona, 1 story, frozen food locker plant, brick, concrete to Murphy & Taylor, 1114 7 St., Wichita Falls, approx. $40,000. CD 3/30—ENR 4/5.

Tex., Raymondville.— PLANT — Willacy County Chronicle, Raymondville, newspaper plant, force account. $40,000. CD 2/15—ENR 2/22.

Tex., Smithville—PLANT—C. G. Anthony, Smithville, frozen food locker plant, 500 lockers, hollow tile, concrete, etc., to Whitten Co., 2105 Fredicksburg Rd., Austin, approx. $40,000. CD 4/4.

Ont., Richmond—MILL—Laurentian Flax Mill Co., Ltd., Richmond, reconstructing flax mill and storage bin, to R. Brown, 350 Whitby St., Ottawa, about $65,000. CD 10/25—ENR 11/2.

Ont., Thornbury—PLANT—Georgian Bay Fruit Growers, G. H. Mitchell, mgr., Thornbury, cold storage plant exten., to Ontario Const. Co. Ltd., Ontario St., St. Catharines, about $120,000. CD 3/9—ENR 3/15.

Que., Asbestos—PLANT—Canadian Johns-Manville Co., Ltd., Sun Life Bldg., Montreal, plant imprvs., to Foundation Co. of Canada, Ltd., 1538 Sherbrooke W., Montreal. Est. $300,000. L. O. Cooper, c/o owner, engr.

Que., Cowansville—PLANT—Bruck Silk Mills, Ltd., 7 Depot St., 1 story 10x104 ft., concrete, brick plant addn., to W. Dussauet, Cowansville. Est. $40,000. MacDougall & Friedman, 1235 McGill College Ave., Montreal, engrs.

Que., Iberville — PLANT — Brodies, Ltd., 138 9 Ave., 75 x 200 ft. granite works plant, day labor. $55,000. CD 3/13—ENR 3/15.

Que., Quebec City—MILL—J. G. Chalifour, 846 First Ave., 2 story 60x62 ft., mill, day labor. Over $40,000.

Que., Rouyn—DIAMOND DRILLING—Ansley Gold Mines, Ltd., 907 Victory Bldg., Toronto, Ont., diamond drilling, etc. on property in Pershing Twp., near here, to Inspiration Mining & Development Co., Amos. Est. $50,000. J. P. Norrie, Amos, engr.

Ont., Toronto—FACTORY—Peter Austin Mfg. Co., 48 Lombard St., 1 story, concrete factory, 112 Richmond St., to James Bodie Constr. Co., Ltd., 456 Pape Ave. About $55,000.

UNCLASSIFIED

PROPOSED WORK

★**†Calif., Alameda** — AIR STATION IMPROVEMENTS — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., four 1 m.g. concrete storage tanks for addnl. gasoline storage, $200,000; widening carrier pier, $950,000; dust palliative for area adjacent to runways, $220,000; exten. runways, $700,000; bank bldg., $22,000; widening, exten. tender pier, $2,445,000; ordnance garage, $35,000. Naval Air Station.

†Calif., Arcata—TRAINING POOL—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., combat training pool, Naval Auxiliary Air Station. $150,000.

★**†Calif., Camp Kearney** — AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., addnl. line maintenance bldg., $25,000; bachelor officers quarters, $110,000; addnl. concrete parking area for planes, $225,000; addnl. barracks for enlisted personnel, $105,000; replacing watermains, $150,000; resurfacing, widening roads, $45,000; physical training structure, $23,000, at Naval Auxiliary Air Station.

†Calif., Crows Landing—TRAINING POOL —Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., combat training pool, Naval Auxiliary Air Station. $150,000.

★**†Calif., El Toro** — AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., group administration bldg., $120,000; guard house, $55,000; air wing headquarters administration bldg., $120,000; women's dispensary addn., $26,000; permanent taxiway lighting, $102,000; 4 married officers quarters, $40,000; physical training bldg., $210,000; walks and curbs, $90,000, at Marine Corps Air Station.

†Calif., Goleta—HANGAR, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., squadron hangar, $40,000; bowling alley and billiard room, $47,000; 5 tennis courts, $23,000, at Marine Corps Air Station, Santa Barbara.

†Calif., Hollister — COMBAT TRAINING POOL—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., combat training pool, Naval Auxiliary Air Station. $150,000.

†Calif., Imperial Beach—RADIO STATION —Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., operating bldg. for development station as consolidated activity, Naval Radio Station. $180,000.

★**†Calif., Livermore**—RUNWAY, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., 1 runway for conversion of station to storage and repair base, $611,000; automatic sprinkler sys., $128,000, Naval Air Station.

†Calif., Miramar—PARKING AREA—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., parking area, Marine Corps Aviation Depot. $66,000.

★**†Calif., Moffet Field**—AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., east-west runway and taxiways, $620,000; one 200,000 gal. elevated tank for water storage, $40,000, at Naval Air Station (Lighter-than-Air).

†Calif., Monterey—TRAINING POOL—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., combat training pool, Naval Auxiliary Air Station, $150,000.

★**†Calif., Oakland**—AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., parking apron, $175,000; fire protection facilities, $116,000; recreational facilities, $169,000; exten. general storehouse, $168,000; rearrangement of officers and shops in Hangar 6, $50,000, Naval Auxiliary Air Station.

†Calif., Salton Sea — AIR STATION IMPROVEMENTS — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., addnl. bachelor officers quarters, $37,000; 1 enlisted men's barracks, $21,000; replacing watermains, $40,000, at Naval Auxiliary Air Station.

†Calif., San Diego — AIR STATION IMPROVEMENTS — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., exten. Bldg. 285 for squadron headquarters, $95,000; equipment storage bldg. for storage of material handling equip., $45,000; resurfacing roads and pavements, $55,000; replacing gasoline services lines, $143,000, at Naval Air Station.

†Calif., Santa Rosa—TRAINING POOL—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., combat training pool, Naval Auxiliary Air Station, $150,000.

†Calif., Skagg's Island—RADIO STATION —Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., development station as consolidated activity and construction incidental to establishment primary frequency standard and measurement facilities, Naval Radio Station. $125,000.

★**†Calif., Terminal Island**—AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., exten. present northeast-southwest runway, $482,000; sprinkler sys. for Hangars 4, 22, 18, 19 and 75, $307,000, at Naval Air Station.

†Calif., Vernalis—RUNWAY, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., east-west runway, exten. northeast-southwest taxiway and safety strip, $200,000; combat training pool, $150,000, Naval Auxiliary Air Station.

†Calif., Watsonville—TRAINING POOL—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., combat training pool, Naval Auxiliary Air Station, $150,000.

†Colo., Denver—PARKING APRON—U. S. Eng., 909 17 St., 15,500 sq. yd. concrete parking apron at Modification Center. $80,000.

Colo., Durango — AIRPORT — City, City Hall, voted $60,000 bonds, airport. CD 4/4/44—ENR 4/6/44.

★**†D. C., Anacostia**—AIR STATION—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., public works workshop and storehouse, $165,000; drainage sys. for north end of field, $38,000; repairing sea wall, $100,000; incinerator, $50,000; photographic library bldg., $300,000, at Naval Air Station.

★**†Fla., Banana River** — AIR STATION — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., covered combat training pool, $200,000; bulk aircraft parts storehouse, $525,000, Naval Air Station.

CLASSIFIED (Proposed Work Cont'd.)

†Fla., Boca Chica—AIR STATION—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., barracks for enlisted men, $480,000; replacement underground cable of airport night lighting sys., $60,000; replacement concrete runway slab, $60,000, at Naval Auxiliary Air Station.

†Fla., Corry Field (br. Pensacola)—AIR STATION IMPROVEMENTS — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., commanding officer's and executive officer's quarters, incl. roads, walks, services and furnishings, $29,000; bituminous surface course on existing runways, extended runways, $210,000; addnl. apron extended parking area, $125,000; imprvs. water system incl. 500,000 gal. elevated tank replacing deteriorated steel tank and tower, $100,000, at Naval Auxiliary Air Station.

†Fla., Ellyson Field (br. Pensacola)—AIR STATION IMPROVEMENTS — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., commanding officer's and executive officer's quarters, incl. roads, walks, services and furnishings, Naval Auxiliary Air Station, $29,000.

†Fla., Jacksonville — AIR STATION BLDGS, etc. — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., exten. Hangar Bldg. 117, $71,000; administration bldg. exten., $226,-000; ship's service warehouse, $96,000; recreation bldg. exten., $42,000; officers' mess bldg. exten., $50,000; auditorium ventilation, $77,-000; vocational training bldg. and library, $72,000; steam heating sys. for Hangar 122, $42,000; constructing fire resisting storage bldg., $30,000, Naval Air Station.

†Fla., Jacksonville—AVIATION SCHOOL IMPROVEMENTS — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., public works storehouse, $4,000; paving roads and drives, $55,000; shelter for transportation equip., $36,000, Naval Aviation Gunnery School.

†Fla., Key West—AIR STATION BLDGS., etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., barracks for enlisted men, $50,000; auxiliary power equip., $50,000; mosquito control, $60,000; underground installation of existing overhead electrical service, $25,000, at Naval Air Station.

†Fla., Miami—AIR STATION BLDGS., etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., bachelor officers quarters and mess facilities, $322,000; theater and recreation bldg., $79,000; water treatment plant, $76,000; sewage treatment plant, $80,000; ship's service bldg., $36,000; auditorium bldg. addns., alterations, $62,000; storm drainage, $63,000; storm drainage sys. at master field, $44,000; shop bldg., for aircraft maintenance at municipal field, $96,000, at Naval Air Station.

†Fla., Pensacola—AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., sprinkler sys. in 11 warehouses and bldgs., $139,000; resurfacing imprv. principal roads and streets, $88,000; exten. storage bldgs., $211,000; separation of electric power and communication cables, $90,000; imprv. electric dist. sys., $100,000; renewal of switchboards and electric accessories in Bldg. 47, $116,000; imprv. to storm drainage facilities, $100,000; imprv. natural gas distr. sys., $25,000; modification of steam distr. sys., consisting exten. 4 mains serving 9 bldgs., $40,000; modernization and expan. central power plant, $959,000; boiler water conditioning and heating equip., $100,000, at Naval Air Station.

†Fla., Richmond — TRAINING TANK — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., training tank, (lighter-than-air) Naval Air Station, $75,000.

†Fla., St. Petersburg—RUNWAYS, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., wearing surface on existing runways and taxiways, NOY 11412, to Marion Constr. Co., 10 N. Magnolia St., Ocala, $97,008.

†Fla., Sanley Field (br. Pensacola)—AIR STATION IMPROVEMENTS — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., commanding officers and executive officers quarters, incl. roads, walks, services and furnishings, Naval Auxiliary Air Station, $29,000.

†Fla., Whiting Field (br. Pensacola)—AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., commanding and executive officers and squadron commanders quarters, incl. roads, walks, services and furnishings, Naval Auxiliary Air Station, $58,000.

†Ga., Atlanta—TRAINING TANK—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., training tank, Naval Air Station, $200,000.

Illinois—CENTRALIZED TRAFFIC CONTROL—Chicago, Burlington & Quincy R.R. Co., H. R. Clarke, ch. engr., 547 W. Jackson Blvd., Chicago, Zone 6, installing 57 mi. centralized traffic control between Flagg Center and Savanna on main line between Chicago and Twin Cities. $425,000.

Ia., Oskaloosa—AIRPORT—City, L. M. Crookham, mayor, defeated bonds $60,000 airport. CD 10/24—ENR 10/26.

†Ia., Ottumwa—AIR STATION BLDG., etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., labor board and civilian personnel bldg., $30,000; paving secondary roads, $24,000; perimeter access, inspection and security roads, $30,000, at Naval Air Station.

Kan., Wichita — AIRPORT — City, c/o Wichita Park Bd., bids soon municipal airport imprvs., incl. 2 hangars, field house, concrete apron, $250,000. Overend & Doucher, Brown Bldg., archts.

†La., Crowley—AIRPORT TURFING, etc.—U. S. Eng., 25 St. and Avenue F, Galveston, Tex., erosion work, turfing, etc., at Legrom Memorial Airport, MI-10. Over $15,000.

†La., Kenner—AIRPORT SEEDING—U. S. Eng., 25 St. and Avenue F, Galveston, Tex., seeding, etc., at Moissant Airport, MI-3. Over $25,000.

†Md., Annapolis — RADIO STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., bldg. modification for new equip. incl. shielded room for centralized frequency control, Naval Radio Station. $125,000.

†Md., Cheltenham — RADIO STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., bldg. modifications and equip. associated with frequency measuring, $75,000; expan. necessary to carry on certain operational research activities, $310,000, Naval Radio Station.

†Mich., Traverse City—AIR STATION BLDG.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., supply warehouse, Naval Air Station. $51,-000.

†Minn., Minneapolis—AIR STATION ADDITIONS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., addns., alterations instruction facilities for Naval Air Technical Training Center, $50,000.

Montana — POWER LINES — Beartooth Electric Cooperative, Red Lodge, received no bids Mar. 27, 82.77 mi. power lines, REA Proj. Mont. 5019, Stillwater Co. $130,000. CD 3/27—ENR 3/29.

†Nev., Austin—RUNWAY, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., runway, bldgs., roads, etc., Outlying Field, $280,000.

†Nev., Lovelock—SHOULDER HARDSURFACING—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., hardsurfacing shoulders, Outlying Field, $165,000.

†Nev., Winnemucca — RUNWAY, etc. — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., runway, bldgs., roads, etc., Outlying Field, $219,000.

†N. J., Lakehurst—AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., exten. watermains, at Lighter-Than-Air Naval Air Station. $60,000.

★†N. C., Cherry Point—AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., quartermaster storehouse addn., $94,000; grading runways, erosion control, $160,000; storage hoppers, $80,000; addnl. ground training facilities, $210,000; street surfacing, $400,000; magazine area garage, $30,000; addnl. water treatment and distr., $150,000; sewage disposal and collection sys., $200,000; 25 sets married officers' quarters, $300,000; 50 sets married enlisted men's quarters, $300,000; ordnance bldg. and fleet equip. maintenance bldg., $61,000; mezzanine storage, $47,000; storage for basic equip., $100,000; assembly and repair shop addn., $400,000; drop hammer shop, $35,000; hangar, $710,000; exten. engine overhaul and engine test bldg., $357,000; exten. steam heating plant and distr. sys., $100,000; civilian cafeteria addn., $63,000; addnl. railroad spurs, $75,000; nurses quarters, $60,000; addnl. development at Cherry Point docks areas for handling gasoline, $210,000, at Marine Corps Air Station.

★†N. C., Edenton — AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., aircraft maintenance bldg., $130,000; gymnasium and recreation bldg., $200,000; addnl. sewage disposal facilities, $26,000; garage exten., $32,000; public works bldg., $70,000; storehouse, $45,000, at Marine Corps Air Station.

†N. C., Manteo—SOIL STABILIZATION—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., soil stabilization, Naval Auxiliary Air Station, $96,000.

O., Akron—TROLLEY BUS INSTALLATIONS—Akron Transportation Co., 47 N. Main St., Akron, exten. trolley-bus service to Cuyahoga Falls and the S. Arlington St. district adjacent to airport and to suburban Barberton, bldg. overhead trolley and feed lines along route, $125,000 or more.

Oklahoma—ELECTRIC POWER TRANSMISSION LINES—Oklahoma Electric Cooperative, Norman, rural electric power transmission lines, Cleveland Co., $25,000 REA allot.

†Okla., Cushing — AIRPORT TURFING, etc.—U. S. Eng., 416 Wright Bldg., Tulsa, turfing and soil erosion, Municipal Airport, Ser. 34-066-45-34. Over $25,000.

†Okla., Guymon—PIPELINE—Cabot Carobon Co., Guymon, pipeline to carbon black plant. $262,000. Defense Plant Corp. will finance.

†Ore., Astoria—AIR STATION—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., game room, $30,000, permanent bridge over railroad, $60,000, at Tongue Point, Naval Air Station.

†Ore., North Bend—AIR STATION BLDG.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., chief petty officers quarters, Naval Auxiliary Air Station, $35,000.

★†Pa., East Pittsburgh—RAILROAD FACILITIES—Union Pacific R. R., B. H. Prater, ch. engr., 1416 Dodge St., Omaha 2, Neb., imprv. railroad facilities, incl. removal 2 viaducts carrying railroad tracks in East Pittsburgh and North Versailles Twp., constructing 2 viaducts replacing old ones, double track main line, exten. low grade track and realignment of low grade track. $2,450,000.

★†Pa., Mustin Field—AIRFIELD DEVELOPMENT—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., field development, incl. new runway, relocating control tower, Naval Auxiliary Air Station, $1,199,000.

†Pa., Phila.—ELECTRICAL SYSTEM, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., high voltage electrical sys. and substation, electrical imprvs. for Bldg. 77, $150,000; increase heating facilities for Bldgs. 59, 77, 78, 87, 532 and 534, $49,000, at Naval Aircraft Factory.

★†Pa., Willow Grove—AIR STATION—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., addnl. paving on apron and taxiways, $205,-000; new concrete runway, $500,000; exten. steam distr. sys., $95,000, at Naval Air Station.

†S. C., Beaufort—AIR STATION BLDG.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., link trainer bldg., Naval Air Station. $29,000.

S. C., Charleston—PIER TERMINAL—Southern Ry. Sys., B. Herman, ch. engr., McPherson Sq., Wash. 13, D. C., rebuilding banana pier terminal destroyed by fire. $325,000.

★†S. C., Parris Island—RUNWAY RESURFACING — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., resurfacing runways, Marine Corps Air Station. $1,543,000.

★Texas, Louisiana, Pennsylvania and New York — GAS PIPELINE — Reserve Gas Pipe Line Co. & Associates, c/o Stearns-Rogers Mfg. Co., engrs., 1720 California St., Denver, Colo., withdrew application to FPC to construct 24 in. natural gas pipeline between points in Texas and Louisiana to Phila., Pa. and New York, N. Y. areas due to inability to secure materials. $80,000,000. CD 3/2/41—ENR 3/27/41.

★Texas—TELEPHONE CABLES—Southwestern Bell Telephone Co., A. L. Edmondson, div. supt., 1121 Capitol, Houston, twin underground long distance telephone cables between Houston and Beaumont, $1,115,000; constructing underground branch line cables from main line to towns of Crosby, Dayton, Devers, Liberty and Nome, $200,000.

Texas — TRANSMISSION LINES — Wood County Electric Cooperative, Whitman, exten. rural electric power transmission lines, Wood Co. $25,000 REA allot.

†Tex., Eagle Mountain Lake—AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., reconstructing runways, $160,000; public works bldg., $60,000; surfacing 1 taxiway and constructing 2 addnl. taxiways, $95,000, at Marine Corps Air Station.

†Tex., Odessa — PIPELINE CARRIER — United Carbon Co., Odessa, pipeline carrier for serving carbon black plant. $158,621. Defense Plant Corp. will finance.

Tex., New Braunfels—ELECTRICAL DISTRIBUTION SYSTEM—New Braunfels Utilities, New Braunfels, bids soon conversion municipal electrical distr. sys. Over $25,-000. Beavers & Lodal, 1411 Transit Tower Bldg., San Antonio, engrs.

†Va., Chincoteague—AIR STATION BLDG.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., central heating plant addn. and exten. distr. sys., Naval Auxiliary Air Station, $50,000.

†Va., Creeds—AIR STATION LAUNDRY—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., laundry, Naval Auxiliary Air Station. $125,000.

★†Va., Norfolk—AIR STATION—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., northwest-southeast runway on east field, $450,000; 2 storehouses and railroad spur, $996,000; four engine test cells, $572,000; hangar, $937,000; relighting all shop spaces in V-28 hangar

UNCLASSIFIED (Proposed Work, Cont'd.)

and west exten., $25,000; addn. to land plane hangar for shop space, $372,000; seaplane ramp, $367,000, at Naval Air Station.

★†Va., Oceana—AIR STATION—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., heavy duty runway, $1,008,000; taxiway, $80,000; perimeter road asphalt, $60,000; hangar, $300,000; central heating plant addn. with extens. to distr. sys., $50,000; laundry, $60,000 at Naval Auxiliary Air Station.

†Va., Quantico—AIR STATION BLDG., etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., training and recreation bldg., incl. theater, $305,000; reconstruct roads, $48,000, at Marine Corps Air Station.

†Wash., Pasco—AIR STATION HANGAR, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., hangar, $300,000; water supply addn., $107,000, Naval Air Station.

†Wash., Seattle—AIR STATION BLDG., etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., recreation bldg., $40,000; addns. to Bldg. 6 for bowling alleys, $23,000, Naval Air Station.

†Wash., Shelton — APPROACH ZONE CLEARING—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., clearing and grading approach zone, $50,000, Naval Auxiliary Air Station.

★†Wash., Whidbey Island—AIR STATION IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., boiler plant addn. for smoke abatement, $93,000; steam distr. sys., $47,000; concrete tunnel for steam mains and replacement steam mains, $55,000; wharf and marginal runway, $1,733,000, all at Oak Harbor; Class C overhaul shop at Ault Field, $75,000, Naval Air Station.

Man., Winnipeg—SWIMMING POOL—Municipality, reconstructing Sherbrooke Swimming Pool. $27,000 voted. W. D. Hurst, City Hall, engr.

N. B., Saint John—TRACK REMOVAL—New Brunswick Power Co., Saint John, street car track removal and street paving, $304,000.

N. S., Halifax—DAMS—Province of Nova Scotia, Halifax, permanent concrete dams. $100,000. Dpt. Lands & Forests, Halifax, engrs.

Ont., St. Thomas—BLOCK SIGNAL SYSTEM—London & Port Stanley Ry., E. V. Buchanan, genl. mgr., London, installing block signal sys. $100,000. A. De Wees, c/o Pere Marquette Ry., St. Thomas, engr.

★Prince Edward Island — TELEPHONE SYSTEM—Maritime Telegraph & Telephone Co., Ltd., Halifax, N. S., exten. telephone sys. throughout Prince Edward Island, $500,000.

Que., Levis — SWIMMING POOL — Levis Golf Club, 14 St. George St., swimming pool. $25,000.

Que., Pointe Claire—BOAT BLDG., etc.—General Yachts, Ltd., c/o N. S. Howe, St. Hubert, boat building, etc.

Que., Sherbrooke — POWER LINES — Municipality, A. Deslaurier, clk., City Hall, 20 mi. electric power lines. G. Masse, City Hall, engr.

Que., Val d'Or—FIRE ALARM SYSTEM—Municipality, fire alarm sys. $25,000. E. A. Ouimet, Val d'Or, engr.

Que., Val d'Or—PARK, etc.—Municipality, park and playground, embellishment. Park 14-215 and constructing park on lot 34-309, tree planting. $50,000. E. A. Ouimet, Val d'Or, engr.

Sask., Gravelbourg — BROADCASTING STATION—Radio System, Inc., Gravelbourg, broadcasting station, $90,000.

Sask., Prince Albert — BROADCASTING SYSTEM—Prince Albert Broadcasting System, Prince Albert, plans broadcasting station. Over $50,000.

BIDS ASKED

Bids Asked April 16

Ont., North Bay—SHIPYARD BLDGS—A. Freeman, secy. Temagami Navigation, Ltd., A. H. Cavanaugh, vice-pres., North Bay, boat repair shop, 2 boat and car storage units, office and restaurant bldg., freight shed, auxiliary freight shed and icehouse. About $45,000. Plans deposit $20.

Ont., Temagami—SHIPYARD BLDGS.—A. Freeman, secy., Temagami Navigation, Ltd., North Bay, office bldg., boat repair shop and yards, 2 boat storage bldgs., 2 freight sheds, ice house. $100,000. Plans deposit $20.

Bids Asked April 17

Ill., Hardin—ICE BREAKER—State, Dpt. P. Wks. & Bldgs., Div. Waterways, 201 W. Monroe St., Springfield, steel sheet piling and concrete ice breaker in channel of Illinois River upstream of the highway bridge, here. C. B. Casey, ch. engr.

Bids Asked April 20

†Mass., Lawrence—AIRPORT—Civil Aeronautics Admin., 385 Madison Ave., New York, N. Y., top grading fertilizing and seeding, Municipal Airport, Prop. 1-45-540.

Bids Asked

New Mexico—GAS PIPELINE, etc.—El Paso Natural Gas Co., El Paso, laying 31½ mi. 16 in. welded joint natural gas pipeline carrier between Eunice and plant at Jal, $225,000; expan., imprv. facilities for recovering residue gas, in Eunice area, $50,000; two 24 in. gas scrubbing towers at Eunice Station and 2 similar towers at Jal Plant 1, over $45,000; constructing, equip. gas compressor units of 800 hp. each, Eunice area, $50,000.

R. I., Newport—BEACH IMPROVEMENTS—City Planning Dpt., Newport, rebuilding bathhouse, pavilion, beach damage, etc., Easton's Beach. $75,000. CD 3/14—ENR 3/22.

Tex., Weslaco—SITE IMPROVEMENTS, etc.—B. Cocke and W. C. Bowman, archts., 1220 W. Harrison St., Harlingen, site imprv., grading, paving, concrete fdn. work for shop, for Wm. K. Holt Machinery Co., P. O. Box 658, San Antonio. $25,000.

LOW BIDDERS

†Ariz., Winslow—AIRPORT PAVEMENT RECONSTRUCTION — Civil Aeronautics Admin., 1500 4 St., Santa Monica, Calif., reconstructing pavement, Winslow Airport, Prop. 6-45-260, from Williams Constr. Co., 2984 Allesandro St., Los Angeles, Calif. $227,423. CD 3/19—ENR 3/22.

†Calif., Santa Maria—RUNWAYS, etc.—U. S. Eng., 751 S. Figueroa St., Los Angeles, Apr. 6, reconstructing, resurfacing runway and taxiway at Santa Maria Airfield, Inv. 266, from C. W. Wood, 816 W. 5 St., Los Angeles, $125,916.

†Calif., Santa Monica—RUNWAY—U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 14, and City of Santa Monica, Apr. 6, 5,000 ft. runway at Municipal Airport, Inv. 253, from Guerin Bros., 649 S. Olive St., Los Angeles, $390,779. CD 3/30—ENR 4/5.

†Colo., Denver—AUTOMATIC SPRINKLER SYSTEM—U. S. Eng., 909 17 St., Apr. 5, automatic sprinkler sys., at Fitzsimons Hospital, from Johnson & Davis Plbg. & Heating Co., 2235 Araphoe St., $31,400. CD 11/24—ENR 11/30.

†Mass., Springfield — AIRPORT BLDG.—U. S. Eng., 31 St. James Bldg., Boston, addnl. storehouse at airport, Spec. 19-023-45-Neg-109, from Geo. E. Duteau, 90 Cloran St., $24,676.

†Nev., Las Vegas—APRONS, etc.—U. S. Eng., 751 S. Figueroa St., Los Angeles 14, Calif., Apr. 5, addnl. aprons and roads, Las Vegas Army Airfield, Inv. 255, from H. W. Polk, 5201 San Fernando Rd., Glendale, Calif., $92,990.

★N. Y., Idlewild—AIRPORT GRADING, etc.—Comrs. Marine & Aviation, Pier A, foot of Battery Pl., New York, Zone 4, Apr. 4, grading, draining, paving, municipal airport, Contr. 2434, from Gull & DeFelice, 518 Porter Ave., Brooklyn, $2,345,000. J. Downer, 30 Rockefeller Plaza, New York, Zone 20, engr. CD 3/28.

Ore., Portland—TOWER REPAIRS—Port of Portland Comn., Spalding Bldg., Apr. 3, repairing 10 towers on pontoons on No. 1 Drydock, from Allyn & Bingham, Builders Exchange Bldg., $72,287. Est. $75,000. CD 3/26—ENR 3/15.

Texas—ELECTRIC DISTRIBUTION LINE—Taylor Electric Cooperative, H. R. Roberts, pres., Merkel, rejected bids Mar. 23, constructing 105 mi. exten. rural electric distr. sys., Taylor, Nolan, Callahan, Jones, Fisher and Shackelford Counties. Freese & Nichols, Capps Bldg., Fort Worth, engrs. CD 3/20—ENR 3/22.

†Tex., Fort Sam Houston—VENTILATION SYSTEMS—U. S. Eng., Fort Sam Houston, installing mechanical ventilation sys., for Brooks Convalescent Hospital, Ser. No. W-41-154-45-98, from F. L. Scott & Son, 123 Beal St., San Antonio, $41,318.

CONTRACTS AWARDED

★California and Nevada—TRANSMISSION LINE—Southern California Edison Co., 601 W. 5 St., Los Angeles, Calif., 130 mi. 220,000 volt transmission line between Los Angeles, Calif. and Boulder Dam, Nev., new substation at Highgrove, Calif., to Stone & Webster, 11 E. Citrus Ave., Redlands, Calif. approx. $4,500,000. CD 3/1—ENR 3/8.

†Calif., Benicia—FIRING RANGE—U. S. Eng., 74 New Montgomery St., San Francisco, proof firing range, Benicia Arsenal, Spec. 1921, to H. H. Larsen Co., 64 South Park, San Francisco. $56,839.

★†Calif., Moffett Field—AIR STATION—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., imprv. flying field and facilities supporting HTA operations at Naval Air Station, incl. laundry bldg., bachelor officers' quarters bldg., etc., Spec. 16077, NOY 11794, to Haas Constr. Co., & Peter Kiewit Sons Co., 326 Merchants Exchange Bldg., San Francisco, $548,554. CD 3/26.

Conn., Bristol—ATHLETIC FIELD—City, D. Donovan, supt. P. Wks., City Hall, grading, roadwork, terracing and landscaping baseball and football fields, tennis courts, athletic field, Rockwell Park. Owner builds. $25,000.

†Fla., Boca Chica—RUNWAY and TAXIWAY RESURFACING, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., resurfacing and marking runway and taxiways, Naval Auxiliary Air Station, NOY 11782, to Belcher Oil Co., 1217 Biscayne Blvd., Miami, $242,[illegible]

†Ill., Rock Island—AUTOMATIC SPRINKLER SYSTEM—U. S. Eng., Clock Tower Bldg., installing automatic sprinkler sys., Rock Island Ordnance Center, Contr. W-11-117-eng-614, to Automatic Sprinkler Corp. of America, 201 N. Wells St., Chicago, Ill., $317,395.

†Ill., Rock Island—FIRE WALLS—U. S. Eng., Clock Tower Bldg., fire walls in bldgs., Rock Island Ordnance Center, Contr. 11-117-eng-616, to Kucharo Constr. Co., 411 Old Colony Bldg., Des Moines, Ia., $30,[illegible]

†Ill., Rock Island—SPRINKLER SYSTEM—U. S. Eng., Clock Tower Bldg., Rock Island, sprinkler sys., etc., Ordnance Center, Contr. 11-117-eng-611, to Melvin McKay, Inc., Rock Island, $94,932.

†Ind., New Haven—AUTOMATIC SPRINKLER SYSTEM—U. S. Eng., 612 Federal Bldg., Louisville, Ky., installing automatic sprinkler sys., Cased Ordnance Depot, Contr. W-23-029-eng-800, to Grinnell Co., Inc., 4428 S. Western Ave., Chicago, Ill., $155,788.

†Kan., Topeka—HANGAR, etc.—U. S. Eng., 10 E. 17 St., Kansas City, Mo., hangar, oil storage, etc., Army Air Force, Contr. W-23-028-eng-738, to Bowers & Lundgren, Topeka, $183,239.

†Ky., Fort Knox—RANGE FACILITIES—U. S. Eng., 612 Federal Bldg., Louisville, range facilities, Contr. W-15-029-eng-796, to Nally & Ballard, Bardstown, $114,940.

†Nev., Fallon—AIR STATION HOUSING—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D. C., housing, Naval Auxiliary Air Station, NOY 11251, to Dinwiddie Constr. Co., Crocker Bldg., San Francisco, Calif.

†N. Y., West Point—CLEARING RIGHT-OF-WAY—U. S. Eng., 120 Wall St., New York, Zone 5, clearing right-of-way, to E. J. Petrillo, 969 Midland Ave., Yonkers, $33,500. CD 3/20—ENR 3/22.

†O., LaCarne—SPRINKLER SYSTEM—U. S. Eng., 522 U. S. Post Office & Courthouse, Cincinnati, installing automatic sprinkler sys., Erie Proving Ground, Contr. W-33-015-eng-595, to Rockwood Sprinkler Co., Citizens Bldg., Cleveland, $470,320.

†Pa., Fort Mifflin — EXHAUST VENTILATOR—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D.C., installing exhaust ventilator dust collection sys. in medium caliber projectile loading bldg., Naval Ammunition Depot, NOY 9046, to Lauger Constr. Co., 1301 Otis Bldg., Phila., Zone 2, $39,967.

†R. I., Charlestown—AIR STATION FACILITIES, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash. 25, D.C., storage facilities, services roads, Naval Auxiliary Air Field, NOY 10919, to E. Turgeon, 614 Turks Head Bldg., Providence, $89,987. CD 3/2.

†Tex., Brownsville—INSTRUMENT LANDING SYSTEM—Civil Aeronautics Admin., P. O. Box 1689, Fort Worth, instrument landing sys., Prop. 4-45-2938, own forces, approx. $25,000. Bids 3/1 rejected. CD 3/6—ENR 3/8, under LB.

Tex., Crane — PIPELINE CARRIER—Humble Pipe Line Co., Humble Bldg., Houston, approx. 3½ mi. addnl. 4 in. crude oil pipeline carrier, force account. $25,000.

†Utah, Ogden—RAILROAD TRACKAGE, etc.—U. S. Eng., 1209 8 St., Sacramento 4, Calif., railroad trackage, paving, drainage and addn. to L. C. L. Freight Shed, incl. utilities at Utah A. S. F. Depot, Spec. 1073 and 1075, to Perkins Constr. Co., 400 Dolly Bldg., 109 W. 2nd South St., Salt Lake City, $67,812.

†Va., Camp Patrick Henry (br. Newport News)—LOADING PLATFORM, etc.—U. S. Eng., Fort Norfolk, altering loading platform, warehouses, etc., Contr. 44-110-eng-406, to Doyle & Russell, Central Natl. Bank Bldg., Richmond, $42,896.

Alta., McLennan—RAILROAD WORK—Northern Alberts Railways Co., J. M. MacArthur, genl. mgr., Edmonton, reconstructing line east and west of here, day labor. $300,000.

Ontario—RAILROAD TRACKS—Canadian National Rys., H. A. Dixon, ch. engr., 360 McGill St., Montreal, Que., laying 10 mi. 100 lb. steel rails from Longwoods to Komoka, own forces. $150,000.

Ontario — BLOCK SYSTEM, etc. — Canadian Pacific Ry. Co., J. E. Armstrong, ch. engr., Windsor Station, Montreal 3, Que., block sys. from London to Windsor and laying 6 mi. new 100 lb. rails in Galt area, own forces, $150,000.

Ont., Hamilton — TRANSMITTER, etc.—Wentworth Broadcasting Co., Ltd., King William and John Sts., Station CKOC, Wm. T. Cranston, mgr., transmitter, tower, equip., to Canadian Marconi Co., Ltd., 211 St. Sacrament St., Montreal, Que. About $65,000.

Proposal Advertisement see p. 23